PARTIAL Index.
No Flexure Tests

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				David	Dunlap	Observatory					
				74"	Logbook						
				Vol.	67						
				Plate	numbers		CCO 833-	CCO 2950			

5 pg#1 TUES-WED

Date 1991 MAR 12/13. Observers T.T. [Hdg.]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCFO 0830 0915	Comp posn /	Stellar posn	3c:/4c:	18 52		01 00W	+53 20	FeAr clear	90s	
833	BIAS(4)									
834	Comp			19 13				FeAr clear	90s	
835	HD ~~197433~~	20 38.6	+75 14	19 17 40	19 28 40	9 54W				1390
836	Comp	20 40.6	+75 32					FeAr clear,	90s	
837	HD ~~197433~~	IF HD 197750		19 40	19 46 40	W				800
838	"		Fr June 96	19 51	19 57 40	W				780
839	Comp								90	
840	HD ~~197433~~			20 05 00	20 12 ~~40~~	W				870
841	HD ~~197433~~	HD 197750		20 14 20	20 23 40	10 48W	Dec circle			930
842	WRONG STAR	V=8th		20 25 50	20 3~~6~~ 00	11 00W	+75 45			940
843	Comp						Dec circle	FeAr clear	90s	
844	HD 197433	20 38.6	+75 14	20 53 30	21 01 00	11 28W	+75 28			1350
845	"	"	"	21 02 10	21 08 50	11 36W				1160
846	"	"	"	21 11 35	21 18 15	11 46W				1120
847	Comp						clear	FeA	90	

Spectr. Temp. -1.7°C Dome Temp./Hum. -1.7°C 65% Transparency Conditions ... FINE ... 6

Focus .... 6.7 pg#1 500.0 24 1024 4 1 CCDFMTT

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT = -101.7°C 30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	1800/51.5	250µ	5890Å			About 1 pixel shift Blue for stellar Full slit Length 12mm	
								1ci		400 550 typ	
								2ci		Hdg/E star N standard?	
1390	2"	7.3-7.7	G3+K7					5ci ✓	HD 197433		
800								1ci ✓			
780								2ci ✓	~~1400~~ 1450 SUM AVG ADUs of 3 columns		
								3ci			
870	2-3"							3ci ✓	1400 SUM AVG ADU of 3 cols,		
930								4ci ✓			
940	2"							6ci	Stellar exps to here are of wrong star.		
1350	2-4"	7.3-7.7	G3+K7					1ci	Hdg pgm 2	2K ADU SUM AVG of 5 cols	
1160								2ci			
1120								3ci			
								4ci			

7 #2

Date 1991 MAR 12/13. Observers T.G. [Hdg.] ... MKi. h/p

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
cc00848	HD 197433	20 38 6	+75 14	21 23 14	21 29 54	11 56 W				920
cc00849	"	"	"	21 30 33	21 37 25	12 04 W				
850	Comp					1 56 E	clear	FeA	90s	
851 -853	FLATS (3)	3.0 secs.				11 30 W	+75 30			
854-55	DARKs	20 min & 10 min respectively								
Fmpo 308 & Tu	HD 82582	09 27 46	+47 20 45	22 10		00 19 E	+47°	"N" mode		Tied up from
cc00856	Comp			22 40		10 54 E	clear	FeA	90s	
cc00857	HD 197433	20 38 6	+75 14	22 44	22 50 40	E				1325
858	"	"	"	22 52 50	22 59 30	10 33 E				1485
859	"	"	"	23 00 46	22 07 26					1330
860	Comp.			~~23 12 0~~					90	
861	HD 197433			23 12 00	23 18 40					1765
862	"			23 20 00	23 26 40					
863	"			23 28 00	23 34 40					1348
864	Fe-A									

Spectr. Temp. ..... Dome Temp./Hum. -3.5°C 70% Transparency Conditions ..... FINE .....

Focus ... G7 ..... pg #2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
920				CCD CASS	1800/51.5	2.5"	5890Å	4ci ✓	Slit Length	Longest, 1.2mm	
								5ci ✓			
								6ci			
										≥ 10k ADU/pixel	
								6ci			
(set up from 31x31 pixel box)				Light	N Wind	4x	Integroth			Dome NW	
								6ci		Topp @ 2220	
1325	4"	✓ 7.3-7.7	G3+K7					~~6ci~~ ✓	Hdy_pgm	VW Cep	
1485								7ci			
1330								9ci			
1265											
								10ci			
1348								11ci			
										~~Dome NW~~	

9 #3

Date 1991 MAR 12/13 Observers MKi — Tes [Holy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
865	MD 197433			23 41 56	23 48 36					1470
~~866~~	"			23 49 ~~00~~	23 55 40					1500 (~~1300~~)
867	"			23 ~~56~~ 40	~~00~~ 03 20	E				1600
cc00868fts	Comp						Clear	FeAr	93	
869	HD197433			00 0810	00 ~~15~~ 00					1493
870	"			00 1533	00 2213					1240
871	"			00 2240	00 2920					1230
872	Comp						Clear	FeAr	90	
~~873~~	HD197433			00 3352	00 40 32					1200
~~874~~	"			00 4050	00 47 30					1100
~~875~~	"			00 4800	00 54 ~~58~~					1320
~~876~~	Comp			~~01 00 30~~	~~01 07 10~~			Fe-A		
877	HD197433			01 00 30	01 07 10					
878	"			01 08 30	01 ~~15 30~~					1400
879	"			01 16 02	~~01 22 42~~ 01 24 25					1410

Spectr. Temp. ..... Dome Temp./Hum. -4°C 68% Transparency Conditions ... CLEAR photometric CO

Focus ... 6.7 ... #3

Spectr. Temp. ..... Dome Temp./Hum. ..... Note – Set time indicates exact commencement to Astro Clock

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
1470				CCD CASS Blue Coll	1800/51.5	25μ	5890Å	12 Ci		V W Cep	
~~(3000)~~ 1500								13 Ci			
1600	3"							~~1~~			
								~~14 Ci~~			
1493	4"							14 Ci			
1240	4"-5"							15 Ci			
1230	4							16 Ci			
								17 Ci			
1200	4"							17 Ci	± 9h APU sum AVG for 5 cols		
1100	4"							18 Ci			
1320	3"							~~19 Ci~~			
								19			
								19 Ci		V W Cep	
1645	2-3							21			
1945								22		Wet a bit by...	

11

#4

Date 1991 MAR 12/13 Observers Mk-Ta

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
cc0088 Flats	Comp							FeAr	90	
881	HD 197433			01 30 20	01 38 46					2000
882	"			01 39 20	01 46 00					1730
883	"			01 46 40	01 53 20					
884	Comp									
885	~~HD 197433~~ BIAS (4)									
886	HD 197433			01 59 40	02 06 20					1635
887	"			02 07 00	02 13 40					1313
888	"			02 14 40	02 21 20					1130
889	Comp						Clear	FeAr	90	
890	HD 197433	20 38 6	+75 14	02 25 40	02 32 50	07 01E				1150
891	"			02 33 40	02 41 00					930
892	"			02 42 00	02 48 40					800
893	Comp							FeAr	90	
cc0089 4 896	Flats (3)						Clear	TUNG	4s	

Spectr. Ter
Focus
Spectr. Ter

Spectr. Temp. ..... Dome Temp./Hum. -4°C 65% Transparency Conditions ..Not Photometric na
Focus ..... 6.07 ..... but Fine enough 12
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								23c;			
2000								23c;	blue wing coming		
1730								24c;			
								25			
1835								26c;	2450 Slit AVG ADU of 4 cols		
1813								27			
1780								28			
								~~29~~			
1650								29	2800 Slit AVG ADU of 7 cols		
1830	2"							30			
2000	<2"							31			
								32			
								32	13K ADU / Pixel max		

13 #5

Date 1991 MAR 12/13 Observers T.T

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC00897.fts	HD197433	20 38 6	+75 14	02 55 50	03 02 30				
898	"	"	"	03 03 20	03 10 00				
899	"	"	"	03 13 10	03 19 50	6 14E			
900	Comp								
901	HD197433			03 27 00	03 33 55				
902	"			03 35 08	03 42 10				
903	"			03 47 30	03 54 10				
904	Comp								
905	HD197433			03 58 00	04 04 40				
906	"			04 05 40	04 12 20				
907	"			04 12 40	04 19 20				
908	BIAS(4)								
909	Comp						clear	Fotr	90
910	HD197433			04 27 05	04 33 50				
911	"			04 34 50	04 41 30				
912	"			04 42 00	04 48 40				

Spectr. Temp. ..... Dome Temp./Hum. -4.4°C 62% Transparency Conditions ..... CLEAR .....

Focus ..... 6.7 .....

Spectr. Temp. ..... Dome Temp./Hum. -5.5°C 62% All Instr parameters the same all night

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1970	<2"	7.3-7.7		CCD CASS Blue Coll				32	Hdy-pym	(About 1 min/page)	
1960								33		4 min left still	
1815	2-3							34	odd one ??	Cosmic Rays? many	
1850	<2"							35			
								36		(Cur broad sym hard)	
1300	3-5"							37	(dbl again 5th)	CCD T = -102.0°C	
								~~38~~			
1432								38	blue comp stronger		
1400								39			
1390								40			
1335								41			
1680								42			
1600								43			

15 #6

Date 1991 MAR 12/13. Observers J.a

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD0913Fts	Comp					4 43E	Clear	FeAr	90s
914	HD197433	20 38·6	+75 14	04 59 00	05 05 40	4 28E			
915				05 06 00	05 12 40				
916				05 13 20	05 20 00				
917	Comp						clear	FeAr	90s
918	HD197433			05 24 05	05 30 45				
919	"			05 32 00	05 38 40				
920	"			05 39 10	05 45 50				
921	Comp							FeAr	90s
922-924	FLATS (3)	(100 TSCALE)		05 56			Clear	THNG	4.00
925	BIAS (4)			05 55					

Spectr. Tem
Focus ... 6
Spectr. Tem

Exp Mtr

240
5736
6510
5450
0536
8300

Spectr. Temp. ..... Dome Temp./Hum. -5.3°C ..... Transparency Conditions ..... Clear Still

Focus ....6.7..... pg #6

Spectr. Temp. ..... Dome Temp./Hum. -6°C 64%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								43			
2110	3"							44	3500ADU sum	AVG of 7 cols	
2386	2½-3"							45			
2510	3"							10c			
								11			
2450								11			
2236								12			
2220	3"							13			
								14			

17pg#1 Wed Thurs

Date 1.991.MAR.13/14. Observers ...Tu.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
926	Comp			19 09			clear	FeA	90
927	HD 87901	10 03 03	+12 27	14 50	15 50	3 45E			
928	"	"	"	16 50	17 50				
929	Comp							FeA	90s
930	BIAS(4)								
931 932	FLATS(2)						clear	TUNG	10s
933	~~Comp~~ DARK			19 35	19 50				900s
934	Comp			19 50			clear	FeAr	90s
935	HD197433	20 38 6	+75 14	19 54 30	20 04 30				10m
936	Comp at Hβ						clear	FeAr	90s
937	Comp at Hα			20 08 30			clear	FeAr	120s
938	HD197433			20 12 35	20 19 25		Dec circle +75 28		
939	"			20 25 20	20 32 00				
940	"			20 32 40	20 40 20	1L 10W			
941	Comp							FeAr	120s
942	FLAT							TUNG	2sec

Spectr. Tem
Focus.....
Spectr. Tem

Exp Mtr	
1530	
1580	
1550	

Spectr. Temp. ..... Dome Temp./Hum. 0°.....66% Transparency Conditions ....Fine again!..... 8

Focus ....6.7.....

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT = -100.3 @ 19 EST

500 0 JA 1029 4 1 CCDFMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	1800/ *	250μ	4860Å	1	Hβ Region	* G= 4800 Long edge slit	
30K		1.47	B7V					2	Regulus	4500 max/pixel	
45K								3	Teluric Std	6000 " /pixel ~25K ADU sum AVG of 8 cols	
								4			
								1ci	2 sq/100		
								1S2cj			
								2ci			
								1ci	Hβ		
								4ci ✓			
								5ci	Hβ		
		✓ 7.3-7.7	G3	CCD CASS	1800/56.5°	250μ	6620Å	~~6~~	Hα	G=6055 6525Å to 6715Å	
1530								6ci		3200 ADU sum AVG 6 cols	
1280								7ci			
1550								5ci			
								8ci			
							6620Å	9ci			

19 #2

Emulsion Batches: .....

Date 1991 MAR 13/14 Observers Jn [Hdg] .....

Previous Page 15 secs behind Astro (Now set time to Asto clock)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CC00943	Comp					~~11 43W~~		FeAr	120s	
944	HD 197433	20 38.6	+75 14	21 05 14	21 13 44	~~11 41W~~				1.90
945				21 14 35	21 21 15					1.80
946				21 21 50	21 28 30	11 58W				
947	Comp							FeAr	120s	
948	Flats (2)					10h W	+75 30		2s	
949									20s	
950	BIAS (4)			21 43						
951	Comp							FeAr	120s	
952	HD 87901			21 52 40	21 53 40	01 02E	+12°			1.80
953	"			22 03 20	(22 06 00 approx)					(1.80 2.4)
954	Comp						Clear	FeAr	20s	
955	DARK 15 min									
956	Comp for vu HD 197433						Clear	FeAr	120s	
957	HD 197433	20 38.6	+75 14	22 58 00	23 04 40	10 26E				1.60
958	"	"	"	23 05 35	23 12 18					1.50
959	"	"	"	23 13 35	23 20 15					1.50

Spectr. Temp. ..... Dome Temp./Hum. ~1.5°C ... 72% Transparency Conditions ..... v. sl. hazy 20

Focus .... 6.7 ..... pg #2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Cdl	1800/	250μ	[Hα	9ci		To 6670 Å Hal and Hα contains better K	
1790	2"	V 7.3-7.7	G3+K				6560Å]	9ci			
1560								10ci			
	3"							11ci			
								12ci			
								13 14		8K max/pixel 10.6 DN/pixel	
								2ci			
30 000								15ci	Tel stl	max 6K/pixel ~20K APO sum NG of 3 cols	
(90000 saturates)! did 80000 defocused								16ci		saturated in Red-Blue	
								17ci		-101.8 CCD T	
								1ci			
1600							6560Å	18ci	Holy ppn	-101.6 °C CCD Temp	
1550	4"							19ci	"		
1400								~~20ci~~	"		

21 #3

Date 1991 MAR 13/14 Observers T.H

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC00960.fits	Comp						Clear	FeA	120
961	HD197433	20 38 6	+75 14	23 21 50	23 31 50	E	+75 36		
962				23 33 45	23 40 25				
963				23 41 00	23 47 40				
964	Comp						clear	FeAr	120s
965	MD197433			23 54 20	00 01 00				
966	"			01 20	00 08 00				
967	"			08 30	00 15 10				
968	Comp			00 18					90
969	~~MD197433~~ Bias x(4)			00 22 40					
970	MD197433			00 25 00	00 31 40				
971	"			00 32 00	00 38 40				
972	"			00 39 30	00 46 30				
973	Comp.			00 5900.					
974	MD197433			00 52 30	00 59 15				

Spectr. Temp. ..... Dome Temp./Hum. ~2.4c 71% Transparency Conditions ..... Fine .....

Focus ..... 6-7 ... still .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	1800/	250	Hα	21c		G=6020 guide Angle	
1250								~~24~~		3b - str	
1230								21			
1200								22			
								23			
1450											
1402											
1300.									(prob 25c; = very narrow Hα)		
								26		Fe-A.	
1200.										VW Cep.	
1200								27		Seeing worse.	
~~1200~~.								28			
								29			

23 #4

Date ..1991..MAR.13/14.. Observers ...Tg...MKi..[Hdg.]...

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mir
975	HD197433	20 38 6	+74 15	00 59 33	01 06 13	E				
976	"			00 07 40	00 14 20	0815E				
977	Comp						clear	FeAr	120	
978	FLAT						+75 30	TUNG	20 sec	
979	Comp						clear	FeA	120	
980	HD199492			01 28 11	01 43 20	08 01 E				
981	Comp						clear	FeA	120	
982	Comp						clear	FeA	120	
983	HD197433	20 38 6	+74 15	01 55 20	02 02 00	07 27E				1534
984	"			02 02 30	02 09 10					1450
985	"			02 14 00	02 20 50	0709E				1350
986	Comp						clear	FeAr	120	
987	HD197433			02 25 20	02 32 40					1160
988	"			02 33 15	02 40 25					1050
989	"			02 41 20	02 48 00					0950
990	Comp						clear	FeA	120	

Spectr. Temp. ..... Dome Temp./Hum. -2.5°C 74% Transparency Conditions ... Fine ... 74

Focus ... 6.7 ... #4

Spectr. Temp. ..... Dome Temp./Hum. -2.4° 69% All setup prior the same.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	1800	750u	6560Å	30			
								31 c;			
										11.6K ADU PIX/pixel	
										1.7 Meg left	
	4-6"							32 c;	~~Kitt Peak~~	3600 Adu Sum 4 e 7 cols	
								33 c;		~~3600 Adu Sum 4 of 7 cols~~	
1634	4" ~~3.1~~ 3.2	V	13-74	G3+K				33 c;			
1450								34 c;			
1850	3"							35			
1860	3"							36			
1900								37			
1600	2"							38			
								39			

15

#5

Date . MAR. 13/14 ..... Observers ... Jm .....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CC00 991	fts HD197433	20 38·6	+75 14	03 01 30	03 08 15	E				700
992				~~03 01 30~~ ~~03 08 50~~ 03 08 50	03 15 27					650
993				03 16 10	03 22 50					1250
994	Comp						clear	FeA	120	
995	HD 197433			03 29 00	03 35 40	5 54E				1448
996	"			03 36 20	03 43 00					1427
997	"			03 46 30	03 53 10					1350
998	Comp						clear	FeA	120	
999	HD 197433			03 58 50	04 05 40					700
CC1000	fts HD197433	20 38·6	+75 14	04 06 20	04 13 40					655
1001	BHS (4)									
1002	HD 197433			04 16 10	04 22 56					650
1003	Comp						clear	FeA	120	
1004	HD 197 433			04 29 00	04 36 40					1046
1005	"			04 37 15	04 43 53					1200
1006	"			04 44 30	04 51 10					1010

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... Fine 26

Focus .... 6.7 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... Note Intruder (s) on Cat wall (outside) ~ 2 40 phoned Police, They checked, + out.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1300	4"	7.3-7.7		CCD CASS Blue Coll	1800/	25u	6560	39	Long 1.7mm Slit Length		
860								40		clouds	
1250								41			
								~~42~~			
1408	4"							42		Single Hx (mirror)	
1437								43			
1600								44			
1300	3"-5"							45			
1655	3"							46		dbl	
1650								47			
								48			
2026	2-3							48	3 400 ADC	Slit Avg of 5 cols	
2000	"							49			
2010	"							50			

#6

Date 1991 MAR 13/14 Observers TN

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mir
CC01007	fls Comp						Clear	FeAr	120s	
1008	HD197433			04 59 30	05 06 10					6:20
1009	"			05 07 00	05 14 11					6:50
~~1010~~	~~"~~			05 15 00	05 21 56					7:00
1010	Comp						clear	FeAr	120s	
1011	Comp						"	"	"	
1012	HD218537	23 03 43	+63 06	05 36 25	05 46					7:30
1013	Comp						clear	FeAr	120	
1014	FLAT						"	TUNG	0.7s	
1015	BIAS (4)									
1016	SKY	during top up		06 08	06 14					5500

Spectr. Temp. ..... Dome Temp./Hum. -2.8°C 68% Transparency Conditions ... clear ... 28

Focus ... 6.7 ...

Spectr. Temp. ..... Dome Temp./Hum. -3° 65%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS	1800/	250	Hα				
2120	2.3"							51			
7090								52			
7100	3"							53	Lost? bug?	too many ci's ?? empty cache message	
								53			
								1ci		5K ADU sum of 5 cols	
7300	4"	6.3	B3V					2ci	Telluric Std	(nice) Abs relative to Hα narrow	
								3ci		CCDT: -100.2°C	
								3ci		11K ADU/pixel max	
5500									Top up @	06 10 AM	
				All ftp to Perseus.							

Date 1991 MAR 14/15 Observers P.d.r. J.a.

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCF0002.	fts/ 93. fts	Comp / stellar		22 50		0 0	+45°	FeNe Clear	10/15 ~~FeN~~
CC0017.fts	Comp						Clear	FeNe	10
1018	HD87901			00 32 40	00 33 20				
1019	~~HD87901 Comp~~			00 35 00	00 35 52				
1020	Comp					Clear	FeNe		10s
1021	BIAS (4)								
1022	FLAT						Clear	TUNG	15s

Spectr. Tem
Focus...
Spectr. Tem
Exp. Mtr.
Note Sk
Moved Sc

Spectr. Temp. +1°C Dome Temp./Hum. 65? Transparency Conditions ...cloudy... ?0

Focus ... ~~6.~~ 7.0

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Note stellar shift at was ~~a~~+3 pixels too			6.7 set Blue	CCD CASS Blue Coil	600/25°	250μ	3960Å		G=2550	HεK region	
Moved Set from		6.7 →	7.0	and with simple iplot expanded in X,					judged shift to be 0 ± .5 pixel @ 7.0 set		
10700					~~MAX ADU~~				Regulus	MAX ADU	5000
30000								SUM AVG ADU = 32000 over 10 columns		MAX ADU	10000
										4-12K ADU/pixel	
						All to Perseus					
						& to WORM					

31

Date 1991 Mar 15/16 Observers [Hdy] / Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CC01023	Comp			20 25				FeNe Clear	20s	
1024	HD 197433			20 31 20	20 38 00					1841
1025	" "			20 41 30	20 48 10	11 26 W			400s	1953
1026	" "			20 49 00	20 56 [illegible]					2000
1027	Comp			20 58				FeNe Clear	20s	
1028	HD 197433			20 59 20	21 06 00	11 43 W				1930
1029	" "			21 06 30	21 13 10	11 51 W				1874
1030	" "			21 13 30	21 20 10	11 58 W				1740
1031	Comp			21 24						
1032	Bias (4)			21 37						
1033 1034	Flats (2)			21 44		11 58 W	+75 35	TUNG Clear	15s	
1035 1036	Flats (2)			22 36		10 46 E	+75 35	"	15s	
1037	Comp			22 43						
1038	HD 197433			22 52 00	23 00 20				500s	1670
1039	"			23 01 40	23 10 00	10 12 E				1750

Spectr. Tem
Focus.....
Spectr. Tem

Spectr. Temp. +1 Dome Temp./Hum. +1°C/61% Transparency Conditions Clear 32

Focus 7.0 535 0 24 1024 41 calfmt

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit*	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	600/24.9	250μ	3960 A	1ci	G=2550	H+K region	
1841	4"							2ci	VW Ceph		
1953			SUM AVG ADU = 1800 @ λcentral over 10 columns					3ci		Cent λ ADU = 260 MAX ADU = 333	
2000					* Longest slit			4ci			
					available on order			5ci			
1930								6ci			
1874			SUM AVG ADU = 1900 @ λcentral over 10 columns					7ci		MAX ADU = 317	
1740								8ci			
								9ci			
										MAX ADU = 1900	
								10ci			
1670			SUM AVG ADU = 1980 @ λcent over 10 columns					11ci		MAX ADU = 391	
1750			SUM AVG ADU = 1930					12ci		MAX ADU = 353	

33 #2

Date 1991 Mar 15/16 Observers EHdyJ/Pdr/Mki

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
CCD1040	HD197433	20 38.6	+75 14	23 11 20	23 19 40	10 01 E				640
1041	Comp							FeNe Clear	20s	
✓ 1042	Comp			23 37					20s	
✓ 1043	HD197433			23 41 20	23 49 40	9 32 E				1783
✓ 1044	" "			23 51 00	23 59 20	9 21 E				2140
✓ 1045	" "			00 06 10	00 14 30					2770
✓ 1046	Comp							FeNe Clear	20s	
✓ 1047	HD197433			00 24 20	00 32 40	8 49 E				2260
✓ 1048	" "			00 33 30	00 41 50	8 40 E				2660
✓ 1049	" "			00 44 20	00 52 40					
✓ 1050	Comp.									
✓ 1051	HD197433			02 58 30	01 06 50					
✓ 1052	HD197633			01 07 40	01 16 00					
✓ 1053	"			01 17 03	01 25 23					
✓ 1054	Comp.								20s	

Spectr. Temp. ..... Dome Temp./Hum. 20.°C / 61.4% Transparency Conditions Clear

Focus ... 7.0 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1840	4.5"	V 7.3-77		SUM AVG ADU = 1920 @ λcentral over 10 colm				13ci	VW Cep	MAX ADU 338	
								14ci			
								15ci			
1980				SUM AVG ADU= 2020 @ λcent				16ci			
2140								17ci			
2370				(SUM AVG ADU= 1980 @ λcent)				18ci			
				(sum avg ADU=2000 @ λcent)				19ci			
2260								20ci			
2060								21ci			
								22ci			
								23ci			
								24ci			
								25ci			
								26ci			

33 35 #3

Date 1991 Mar 15/16 Observers Mk1/Pdr/[Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
✓									
(cc) 1055	HD 197433			01 32 05	01 40 25	7 41 E			
✓ 1056	" "			01 40 40	01 49 00	7 33 E			
✓ 1057	" "			01 49 40	01 58 00	7 24 E			
✓ 1058	Comp							FeNe	20s
✓ 1059 1060	Flats (2)			02 01		7 10 E	+15	Tung clear	15s
✓ 1061	Bias (4)			02 02					
✓ 1062	Comp			02 08				FeNe Clear	20s
✓ 1063	HD 197433			02 10 05	02 18 25	7 03 E			
✓ 1064	" "			02 19 20	02 27 40	6 54 E			
✓ 1065	" "			02 28 30	02 36 50	6 45 E			
✓ 1066	Comp			02 38				FeNe Clear	20s
✓ 1067	HD 197433			02 41 50	02 50 10	6 32 E			
✓ 1068	" "			02 50 50	02 59 30	6 22			
✓ 1069	" "			03 01 20	03 09 40				
✓ 1070	Comp.							FeNe clear	20s

Spectr. Temp. -0.2°C / ~~59%~~ Dome Temp./Hum. -0.2°C / 59% Transparency Conditions Clear 36

Focus 7.0

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1915	5.1"	variable seeing			600/24.9	250μ	3960Å	26 ci	VW Cepheid		
1810								27 ci			
1890				SUM AVG ADU = 2010 @ λcentral				28 ci			
								29 ci			
								30 ci 31 ci			
								~~30~~ 1 ci			
								32 ci			
1626								32 ci			
2050	4"-7"	variable		SUM AVG ADU = 2180 @ λcent				33 ci			
1875								34 ci			
								35 ci			
2220				SUM AVG ADU = 2270 @ λcent				35 ci			
2115								36 ci			
2180.								37 ci			
								38 ci			

37 #4

Date 1991 Mar 15/16 Observers Pdr/Mkr/[Hdy.]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
✓ CC01071, 4t3	HD197433				03 21 40				45
✓ 1072	"			03 23 40	03 32 00				
✓ 1073	"			03 32 30	03 40 40	5 41 E			490
✓ 1074	Comp							FeNe clear	20s
✓ 1075	HD197433			03 46 20	03 54 40	5 27 E			
✓ 1076	" "			03 55 20	04 03 40	5 18 E			
✓ 1077	" "			04 04 20	04 12 40	5 09 E			
✓ 1078	Comp								
~~1079~~	~~HD197433~~			~~04 22 40~~	04 31 00	4 51			
				~~04 31 30~~					
✓ 1079	Comp			04 38				FeNe clear	10s
✓ 1080	HD197433			04 39 40	04 48 00				
✓ 1081	" "			04 48 40	04 57 00	4 24 E			
✓ 1082	" "	36 apertures		04 57 30	05 05 50	4 16 E			
✓ 1083	Comp								

Spectr. Temp. ..... Dome Temp./Hum. -0.2 °C / 56.8 % Transparency Conditions Clear

Focus 7.0

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	600/24.9	250μ	3960Å	38ci	G=2550	Exp < 5 sec s.	
2740.								39ci	VW Ceph		
2770				SUM AVG ADU = 2400 @ λcentrl				40ci			
								41ci			
2713								42ci			
2330		4"-6"		SUM AVG ADU = 2331 @ λcent				42ci			
2600								43ci			
								44ci			
2560				SUM AVG ADU = 2435 @ λc				44ci		lost	
								~~44ci~~		"	
								44ci			
2632								44ci			
2700				SUM AVG ADU = 2471 @ λcent				45ci			
2677								46ci			
								47ci			

39 #5

Date 1991 Mar 15/16 Observers Pdr [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Ext. Mtr
cc01084 ✓ .fts	HD 197433			05 10 40	05 19 45					2.55
✓ 1085	" "			05 20 30	05 28 50	3 53 E				2.090
✓ 1086	" "			05 29 30	05 37 50	3 44 E				2.15
✓ 1087	Comp									
✓ 1088 ✓ 1089	FLATS (2)			05 42		3 38 E	+75 33			
✓ 1090	Bias (4)									
✓ 1091	Dark (10 min)								10m	

Spectr. Temp. ..... Dome Temp./Hum. -0.1°C / 55.3% Transparency Conditions Clear 40

Focus 7.0

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2350				CCD cass	600/24.9	250μ	3960Å	47i	V W Cep		
2090	5"-6"							48i			
2015								49i			
								50i			
								51i 52			
								1i			
								53i			
		All ftp to Perseus									

41 #1

Date 1991 Mar 16/17 Observers P&r / [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCO 1092 ✓ fts	Comp			20 00				FeAr Clear	90s	
✓ 1093	HD 197433	20 38.6	+75 14	20 10 10	20 16 50				400s	640
✓ 1094	" "			20 17 50	20 24 30	11 06 W				880
✓ 1095	" "			20 25	20 31 40	11 14 W				1280
✓ 1096	Comp							FeAr	90s	390
✓ 1097	HD 197433			20 39 10	20 45 50					390
✓ 1098	" "			20 47 00	20 53 40	11 35 W				844
✓ 1099	" "			20 54 00	21 00 40	11 42 W				1220
✓ 1100	Comp							FeAr Clear	90s	
✓ 1101	HD 197433			21 08 10	21 14 50	11 57 W				1790
✓ 1102	" "			21 16 00	21 22 40	12 04 W				1700
✓ 1103	Comp							FeAr Clear	90s	
✓ 1104	Bias (4)			21 28						
✓ 1105 ✓ 1106	Flats							Thru Clear	4s	

Spectr. Tem
Focus ... 6
Spectr. Tem

Spectr. Temp. +5.2°C Dome Temp./Hum. +5.2°C / 41% Transparency Conditions Clear Hazy 42

Focus 6.85 (stellar + Comp show no shift at this value)

Spectr. Temp. ..... Dome Temp./Hum. .....

505 0 24 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit*	Emulsion	P.H.	Program	Remarks	Quality
	3".5			CCD Coss	1800/51.5	250μ	5890Å	1 ci		G = 5505	
640				SUM AVG ADU = 2430				1 ci	VW Cph	Sodium lines setting	
880				⊙ ~λ 5890 (10 columns)				2 ci			
1288				SUM AVG ADU = 2780				3 ci			
~~2940~~					* longest slit			4 ci			
390					available on			5 ci			
844					decker			6 ci			
1220								~~6~~ 7 ci			
								8 ci			
1790								8 ci			
1700								9 ci			
								10 ci			
								1 ci			
								10 ci		~14K	

43 #2

Date 1991 Mar 16/17 Observers Pdr/Mki/[Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
✓1107 ✓1108	Flats (2)					11 32 E	+75 35	TUNG clear	4s	
✓1109	Comp			21 50				FeAr clear	90s	
✓1110	HD 197433			21 57 20	22 04 00					
✓1111	"			22 06 00	22 13 10 ~~22 40~~				430s	1570
✓1112	"			22 14 00	22 20 40					1560
✓1113	Comp							FeAr clear	90s	
✓1114	HD 197433			22 28 10	22 34 50					1562
✓1115	" "			22 36 50	22 44 30	10 34 E			460s	1560
✓1116	" "			22 45 50	22 52 30	10 26 E				1560
✓1117	Comp							FeAr clear	90s	
✓1118	HD 197433			23 00	23 06 40					1760
✓1119	"			23 07 50	23 14 30					1780
✓1120	"			23 16 30	23 ~~22 30~~ 24 15				~~460s~~	1780
✓1121	Comp							FeAr clear	465s 90s	
✓1122	HD 197433			23 31 40	23 38 20	9 40 E				1770

Spectr. Ten
Focus ..6
Spectr. Ten

Spectr. Temp. ..... Dome Temp./Hum. 13.4 / 39.7 % Transparency Conditions Clear, Cirrus 44

Focus .. 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Coos	1800/515	250μ	5890Å	10 ci		14.5K ADU MAXIMUM	
								10 ci			
	3"							10 ci	VW Ceph		
1570								11 ci			
1500								12 ci			
								13 ci			
652								13 ci		Clouds?	
1300				SUM AVG ADU = 3460 @ 5890 Å (10 columns)				14 ci			
1480								15 ci			
								16 ci			
1720								16 ci			
1780	4"	variable						17 ci			
1900				SUM AVG ADU = 3770 @ 5890 A (10 columns)				18 ci			
								19 ci			
1770								19 ci			

45 #3

Date 1991 Mar 16/17 Observers Pdr / [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
cco 1123 ✓ sts	HD 197433	20 38 6	+75 14	23 39 40	23 46 20	9 32 E				1750
✓ 1124	"			23 47 20	23 53 55				395s	1750
✓ 1125	Comp									
✓ 1126 ✓ 1127	Flats (2)					9 15 E	+75 40	Tung Clear	4s	
~~1128~~	~~HD 197433~~									
✓ 1128 ✓ 1129	Flats (2)					9 00 E	+75 40	Tung Clear	4s	
✓ 1130	Comp							Fe Ar Clear	90s	
✓ 1131	HD 197433			00 23 20	00 30 00					1662
✓ 1132	"			00 30 20	00 37 00					1670
✓ 1133	"			00 39 40	00 ~~46~~ 46 20					1870
✓ 1134	Comp.							Fe-A.	90s.	
✓ 1135	HD 197433			00 53 40	01 00 40				420s	
✓ 1136	"			01 01 20	01 08 00					1800
✓ 1137	"			01 08 20	01 15 00					
✓ 1138	Comp									

Spectr. Temp. ..... Dome Temp./Hum. +3°C / 39.7% Transparency Conditions .....

Focus 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1770	4"-1'	variable		CCD Cass	1800/51.5	250μ	5890Å	20ci	VW Ceph		
1750								21ci		Check start time.	
								22ci			
								22ci		~14000 ADU	MAX
								23ci		noticed decker shifted to next smaller slit (using longest avail)	
								23ci			
								24ci			
1662								24ci			
1670.								25ci			
1870								25ci			
								26ci			
—								26ci		Good count rate.	
1800.								27ci			
								27ci			
								28ci			

47 #4

Date 1991 Mar 16/17 Observers Pdr / Mki / [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD 1139 ✓ sts	HD 197433			01 24 30	01 33 30				540s
✓ 1140	"			01 34 00	01 40 40	7 38 E			
✓ 1141	"			01 43 10	01 49 50	7 28 E			
✓ 1142	Comp							Fe AR Clear	90s
✓ 1143	HD 197433			01 56	02 02 50				410s
✓ 1144	"			02 04 40	02 11 20	7 07 E			
✓ 1145	"			02 12 40	02 19 20	6 58 E			
✓ 1146	Comp								
✓ 1147	HD 197433			02 26 20	02 33 00	6 45 E			
✓ 1148	"			02 35 30	02 42 10	6 36 E			
35 ✓ 1149	"			02 43 10	02 49 50	6 28 E			
✓ 1150	Comp								
✓ 1151	HD 197433			03 00	03 05 40				340s
✓ 1152	"			03 08 30	03 15 10	6 03 E			
✓ 1153	"			03 16 40	03 23 20	5 54 E			

Spectr. Ter
Focus ... 6
Spectr. Ter

Exp. Mtr.
1500
1815
1640
1750
1950
2050
2 10
2160
2360
2480

Spectr. Temp. ..... Dome Temp./Hum. +2.5°C / 40.2% Transparency Conditions Clear 48

Focus 6.85

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4.5"			CCD Coss	1000/51.5	250μ	5890Å	28 ai	VW Ceph		
1500								29 ai			
1815								30 ai			
								31 ai			
1640								31 ai			
1750				SUM AVG ADU = 3565 (@ 5890Å (over 10 columns)				32 ai			
1950								33 ai			
								33 ai			
2050								34			
2110								35			
2160								36			
								37			
2100	3"							37			
2230								38			
2680								39			

49 #5

Date 1991 Mar 16/17 Observers Pdr/[Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCO 1154 ✓ fts	Comp			03 25				1a Air Clear	90s	
✓ 1155	HD 197433			03 29	03 35 40					2730
✓ 1156	"			03 37 10	03 43 00				35s	2950
✓ 1157	"			03 44 20	03 51 00					3120
✓ 1158	Comp							Fe Air Clear	90s	
✓ 1159	HD 197433			03 59 50	04 06 30	5 11 E				2740
✓ 1160	"			04 08 20	04 15 00	5 03 E				2760
✓ 1161	"			04 16 10	04 22 50	4 55 E				2780
✓ 1162	Comp									
✓ 1163	HD 197433			04 31 30	04 38 10	4 40 E				2832
✓ 1164	"			04 40 30	04 47 10	4 31 E				2860
✓ 1165	"			04 48 10	04 54 50	4 23 E				2940
✓ 1166	Comp									
✓ 1167	HD 197433			05 01 00	05 07 40	4 10 E				2980
1168	"			05 08 50	05 15 30	4 02 E				2970

Spectr. Ter
Focus ...6
Spectr. Ter

Spectr. Temp. ..... Dome Temp./Hum. +1.9°C / 41.9% Transparency Conditions Clear 50

Focus 6.85

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/51.5	250μ	5890A	40 a	VW Ceph		
2730								40 a			
2450	3"							41 a			
2520								42 a			
								43 a			
2740								43			
2700								44			
2790								45			
								46			
2330								46			
2200								47			
2140								48			
								49			
2280								49			
2170								50			

451 #6

Date 1991 Mar 16/17 Observers Pdr/[Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
CCD 1169 fts	HD 197433			05 16 30	05 24 00	3 54 E			45s
1170	Comp							Fetz Clear	90s
1171	HD 197433			05 30 10	05 36 50	3 41 E			
1172	Comp								
1173 1174	Flats (2)					3 39E	+75 40	Tung Clear	4s
1175	Bias (4)			05 43					
1176	Dark 10 min								

Spectr. Temp.
Focus 6.6
Spectr. Temp.

Exp Mtr Se

Spectr. Temp. ..... Dome Temp./Hum. +1.8/36.8% Transparency Conditions Clear .....

Focus ... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1940	4"			CCD Cass	1800/51.5	250μ	5890Å	51	VW Ceph		
								52			
1940	5"							52			
								53			
								53 54			
								~~51~~ ci			
								54 ci			
				On Perseus to ~~CC0112S.fts~~ CC01176.fts							
				& WORM							

53 #1

Date 1991 Mar 19/20 Observers Pdr / [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO 1177 ✓ fts	Comp							FeA Clear	90s
✓ 1178	HD 197433	20 38.6	+75 14	23 57 30	00 05 00				450
✓ 1179	" "			00 07 29	00 14 30				421
✓ 1180	" "			00 16 50	00 23 30	8 43 E			400
✓ 1181	Comp			00 25 45				FeA Clear	90s
✓ 1182	HD 197433			00 31 10	00 37 50	8 29 E			150
✓ 1183	"			00 38 40	00 45 26	8 21 E			406
✓ 1184	"			00 46 30	00 53 15	8 13 E			405
✓ 1185	Comp								
✓ 1186	HD 197433			01 10 00	01 16 40	7 49 E			
✓ 1187	"			01 18 00	01 24 40	7 41			
✓ 1188	"			01 25 10	01 31 50				
✓ 1189	Comp							FeA Clear	90s
✓ 1190	Bias (4)								
✓ 1191 ✓ 1192	Flats (2)					7 20 E	+75 37	Tung Clear	14s

Spectr. Temp. ..... Dome Temp./Hum. +2.2/77.2 Transparency Conditions ..... Clear 54

Focus ..... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 505 0 24 1024 4 1 coafint

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5"			CCD Cass	1800/45.1		4860Å	G = 4800		Hp setting	
1145								2ci		VW Ceph	
								3ci			
1045				SUM AVG ADU = 2050 @ 4860Å (10 columns)				4ci			
								5ci			
1150				SUM AVG ADU = 2110 @ 4860Å (10 columns)				5ci		SUM AVG ADU BACKGROUND = 1770 (10 columns)	
1240								6ci			
1280				SUM AVG ADU = 2110 @ 4860Å (10 columns)				7ci			
								8ci			
1375								8a			
1250								9ci			
1370								10ci			
								11ci			
								1ci			
								11ci		13.6K ADU MAX	

55 #2

Date 1991 Mar. 19/20 Observers Gdr/[Hdj]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD 1193 ✓ fts	Comp							FeA Clear	90s
✓ 1194	HD 197433			01 55 10	02 01 59	7 04 E			407s
✓ 1195	"			02 02 50	02 09 30	6 57 E			
✓ 1196	"			02 13 10	02 19 40	6 46 E			390s
✓ 1197	Comp							FeA Clear	90s
✓ 1198	HD 197433			02 27 50	02 34 30				
✓ 1199	"			02 36 40	02 43 20				
✓ 1200	"			02 45 50	02 52 30	6 13 E			
✓ 1201	Comp			02 55				FeA Clear	90s
✓ 1202	HD 197433			03 01 30	03 08 10				
✓ 1203	" "			03 13 00	03 19 40	5 46 E			
✓ 1204	" "			03 21 50	03 28 30	5 37 E			
✓ 1205	Comp								
✓ 1206	HD 197433			03 45 00	03 51 40				
✓ 1207	"			03 54 10	04 00 50				

Spectr. Temp. ..... Dome Temp./Hum. +1.2/76.4 Transparency Conditions Clear 56

Focus ...Ca 85.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/#5.1	250μ	4860Å	12a	VW Ceph		
1340	5"							12a			
1220								13a			
1210								14a			
								15a			
1290								15a			
1250								16a			
								17a			
								18a			
								18a			
1340								19			
								20			
								21			
750	5"							21		⅘ adjusted slit slider	
1830								22			

57 #3

Date 1991 March 19/20 Observers Pdr / [Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCD 1208 ✓ fts	HD 197433			04 02 50	04 09 30					
✓ 1209	Comp							Fe A Clear	90s	
✓ 1210 ✓ 1211	Flats (2)					4 53 E	+75 37	Tung Clear	14s	
✓ 1212	HD 197433			04 19 40	04 26 20	4 39 E				
✓ 1213	"			04 30 10	04 36 50	4 28 E				
✓ 1214	"			04 39 50	04 46 30	4 20 E				1530
✓ 1215	Comp			04 48				Fe A Clear	90s	
✓ 1216	HD 197433			04 51 30	04 58 10	4 08 E				2000
✓ 1217	"			05 00 30	05 07 10	3 58 E				1900
✓ 1218	"			05 09 20	05 16 00	3 50 E				1800
✓ 1219	Comp			05 18				Fe Air Clear	90s	
✓ 1220	HD 197433			05 21 00	05 27 40	3 38 E				1630
✓ 1221	"			05 29 40	05 36 20	3 29 E				1530
✓ 1222	Comp			05 37 40				Fe Air Clear	90s	
✓ 1223 ✓ 1224	Flats (2)					3 26 E	+75 37	Tung Clear	14s	
✓ 1225 ✓ 1226	Dark - 10 min Bias (4)			05 43						

Spectr. Temp. ..... Dome Temp./Hum. 40.6/76.4 Transparency Conditions Clear 58

Focus 6.85

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5"			CCD Coss	1800/45.1	250μ	4860Å	23ci	VW Ceph		
								24ci			
								24ci		14.3 K ADU MAX	
								25ci			
								26 ci			
1930								27 ci			
								28 ci			
2000								28ci			
980								29			
1860								30			
								31			
1830	6"							31			
1820								32			
								33			
								33		13 K ADU MAX	
								34			

59 pg#1 Wed - Thurs

Emulsion Batches:

Date 1991 MAR 20/21 Observers ...T.n...P.d.r....[.Hdg.]

505 0...24.1024.4...1 CCD Fmt

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC01227 ✓ fts	Comp						Clear	FeAr	90s
✓ 1228	HD67767	08 04 26	+25 49	19 27 40	19 39 40				
✓ 1229	Comp								
✓ 1230 ✓ 1231	Flat (2)								4s
✓ 1232 ✓ 1233	Flat (2)								3.5s
✓ 1234	Comp								
✓ 1235	HD67767			19 55 00	20 09 55				
✓ 1236	Comp								
✓ 1237	Comp							FeA Clear	120s
✓ 1238	HD75732	08 46 39	+28 43	20 25 30	20 30 30				
✓ 1239	Comp							FeA Clear	120s
✓ 1240 ✓ 1241	Flat (2)								3,5s
✓ 1242	Flat								4s
✓ 1243	Comp			20 41				FeA Clear	90s
✓ 1244	HD75732			20 44 50	20 50 00				

Spectr. Ter
Focus....
Spectr. Ter

Exp. Mtr.

6320

4000

4000

Spectr. Temp. ..... Dome Temp./Hum. +3.4 ... 38.7% Transparency Conditions Cloud coming in 60

Focus .... 6.85 ..... 19 #1 Then clearing

Spectr. Temp. ..... Dome Temp./Hum. ..... Topup @ 19 hrs T = -129°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	1800/	250	G=5505 5890Å	1 ci		Slit full length (long at step)	
6320	2"	5.73	G7	CCDCASS Blue Coll				2 ci	Sp Phot Std	reset "time" during exp	
										14.5K ADU MAX	
										14.7K " "	
					1800/56.2		G6020, 6560Å		Sp phot std	1st point exp than the rest	
6000											
6000 EXACTLY	K2"	5.95	G8		1800/		6560Å	6 ci	Sp phot Std		
3.2										15.3/13.5K ADU MAX	
							5890Å			14.6K ADU MAX	
6300						Note CCD Temp not normal to the -100°C usual setting					

61 #2 Wed-Thurs

Date 1991 MAR 20/21 Observers Hdy/I.T.n/Pdt

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
✓1245	Comp							FeA Clear	90s	
✓1246	BIAS (4)									
✓1247	BIAS (4)	after setting CCD Temp to -100 Region								
✓1248	Comp						Clear	FeA	90s	
-1249	HD 75732	08 46 39	+28 43	21 15 50	21 22 25					6318
-1250	Comp						clear	FeA	90s	
✓1251	Flat - 5890Å						clear	TUNG	4s	
✓1252	Flat - 6560Å						"	"	3.2s	
✓1253	Comp						"	FeA	120	
✓1254	HD 75732	08 46 39	+28 43	21 42 40	21 48 30	00 31 W				
✓1255	Comp						clear	FeA	120	
✓1256	Comp								120s	
✓1257	HD 87901	10 03 03	+12 27	21 58 40	21 58 58	E				1240
✓1258	"	"	"	22 00 50	22 01 02	8 35 E				1300
✓1259	Comp						clear	FeA	120	
✓1260	FeNeA T						clear	TUNG	120s	

Spectr. Temp. ..... Dome Temp./Hum. +2.5°C 40% Transparency Conditions ... PART cloudy .....

Focus ..... 6.85 ..... pg #2

Spectr. Temp. ..... Dome Temp./Hum. ..... Note CCD Temp not changed to the -100°C Region till 21 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	1800/51.5	2Dm	G=5505 5840Å			* CCD T ≈ -129	
										* CCD T = -129 still	
										CCD T set = -101.8°C	
G318	<2"	5.94 V	dKO or G8V					7ci	Sp phot std		
										14.5 K ADU MAX	
note 1st attempt didn't write				"0 bytes"			G=6020 6560Å		Had to Reset Hericon	14.2 K ADU MAX	
							6560Å				
	<2"	5.94 V	G8V						Sp phot std		
12740		B 1.47	B7V				6560Å		Sp phot std		
11400											
3.2 sec.							6560Å			13.9 K ADU MAX	

63 #3

Date ..1991..MAR 20/21 Observers ...Hdy./../P.dr./J.T.n...

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCD1761-fts	Flat						Clear	TUNG	4.0s	
1262	Comp						clear	FeA	90s	
1263	HD 87901	10 03 03	+12 27	22 15 20	22 15 35					120
1264	"	"	"	22 16 20	22 16 33					120
1265	Comp						clear	FeA	90s	
1266	Comp						clear	FeA	90s	
1267	HD 75528	08 51 01.4	+15 21 02	22 26 40	22 40 30	01 25 W				530
1268	Comp						clear	FeA	90s	
1269	Flat						clear	TUNG	4s	
1270	FLAT						clear	TUNG	3.2s	
✓ 1271	Comp						clear	FeA	120s	
1272	HD75528	08 51 01.4	+15 21 02	22 56 30	23 35 21	02 20 W				550
1273	Comp						clear	FeA	120s	
✓ 1274	Bias (4)									
1275	Darks - 15m			23 48 30						

Spectr. Temp. ..... Dome Temp./Hum. +1.9°C 42.5% Transparency Conditions .. PART. cloudy .....

Focus .....6.85..... Pg #3

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	1800/5115	250μ	G-5505 5890Å		(1.2mm longest slit)	14.1K ADU MAX	
12,900 ~~14K~~		B 1.47	B7 V						Sp phot Std		
13K		"	"								
							5890Å				
6300	x 1.5"	V 6.38	G1 V				5890Å		Sp phot std.	USNO = 1.5" GRC x most images in 250μ slit	
										14.4K ADU max pixel	
							6560Å			13.8K ADU max pixel	
2450	~~2.3"~~	V 6.38	G1 V				G-6020 6560Å			Thick cloud again	
			All on Perseus + WORM							CCDT = -100°C	

65 Sun mon

Date 1991 MAR 24/25 Observers Hdy/I.T.n

Emulsion Batches:

At meridian

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCT0001.fts	BIAS (1)	Note, CCD window dried before flats (much smaller window)							
CCT0002	FLAT 302secs					TUNG	No ND	CLEAR No Ap	3·2
3	FLAT 60 secs					"	ND 1·2	"	60sec
4	FLAT 60secs		+14 30	22 44		"	ND 1·2	"	60secs
5	✓ 10FLATS.BAT	10 FLATS (sum of)			each 20 msec		No filter	No Ap	
6	✓ FLAT		+14 30	22 54			ND 1·2	"	60sec
7	✓ FLAT repeat of Previous		+14 30	23 05			ND 1·2		60sec
8	FLAT at higher Dec						"	"	60sec
9	✓ 10FLATS.BAT	2 Tscale	(Sum of 10 40 msec exps)				no filter	"	
10	" "	4 Tscale	Sum of 10 80 msec exps				no filter	"	
11	" "	8 Tscale		23 56	(Sum of 10 160 msec exps)		"	"	
CC01276.fts	DARK for previous night			01 00					1200
	(for Low temp CCD OBS)			"					

Spectr. Tem
Focus
Spectr. Tem
Exp. Mtr.

Spectr. Temp. ..... Dome Temp./Hum. +4°C ..78% Transparency Conditions ... Cloudy .....

Focus ..... 6.85 ..... AstroClock is 15.7s Fast. AT 9:02 PM EST MAR 24

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT = -100.2°C

505 0 24 1024 4 1 CCDFMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	1800/562	250u redacted	6560Å	1ci		Full Length Slit	
Tel Dec =	30°							2ci			
	"			[note f18 Ap stop				3ci			
Dec Tel = 14° 30'				always in place]				4ci	Tel at lower Dec than previous	≈ 15' south of others	
Tel Dec =	30°						8ci	~~10ci~~	Done before previous Flat (17.6% amp. diff)		
Tel Dec	+14 30'							5ci			
	" "							6ci			
Tel Dec	+30°							7ci			
	+30°							9ci	Amplitude Diff 12.5%		
	+30°							21ci	Amplitude Diff 8.4%		
	+30°							10ci	Amplitude Diff 5.3%		
									CCDT = -128.4°C		

67 Thurs Fri pg#1

Date 1991 MAR 28/29 Observers [Hdg.] J.n./Pdr.

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
CCD1277	Comp			19 44			Clear	FeAr	90s
1278	HD 197433	20 38·6	+75 14	19 50 00	19 56 40	W			
1279		"	"	19 57 40	20 04 20	11 33W			
1280		"	"	20 05 37	20 11 57				
1281				20 12 55	20 19 15				
1282	Comp						Clear	FeAr	90s
1283	Flat								
1284	HD 197433			20 25 42	20 32 22	12 00W			
1285	HD 197433			20 32 30	20 39 10	11 52E			
1286	Flat								4s
1287	Comp								
1288	BIAS								
1289	Comp						Clear	FeA	90s
1290	Moon NOT TRAILED			~~21 14 30~~ ~~21 13~~	21 14 50				20sec
1291	Comp						Clear	FeA	90s
1292	Flat								4s

Spectr. Temp. ..... Dome Temp./Hum. +52°C 48% Transparency Conditions ... Fine 68

Focus .... 6.85 ..... pg#1

Spectr. Temp. ..... Dome Temp./Hum. ..... 482 0 38 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue coll	1800/51.7	2sec nodaker	5890Å	1ci			
1570	3"	7.3-7.7	G3+ K7					~~2ci~~	Hdy-pgm	Tel East side of pier	
1530								2ci			
1360								3ci			
1310								4ci			
1312	5"							5ci			
1230								6ci			
									MAX ADU/pixel 11.3K		
							5890Å		MAX	14.4K ADU	

69 pg #2

Date 1991 MAR 28/29 Observers Pdr Tn [Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD1293	FLAT								
1294 Fts	Comp							FeA Clear	120s
CCD1295 Fts	moon NOT TRAILED			21 29 40					20s
1296	Comp							FeA Clear	120
1297	Flat ~~Repeat of 1293 by accident~~						Clear	TUNG	32s
1298	FLAT						Clear	TUNG	13s
1299	Comp						clear	FeA	90s
1300	moon NOT TRAILED			21 ~~28~~ 51				40s	~~30~~
1301	Comp						clear	FeA	90s
1302	Comp						clear	FeA	90s
1303	HD 197433			22 31 30	22 38 10				
1304	"			22 42 00	22 ~~48~~ 40				
1305	"			22 49 50	22 56 30	9 34 E			
1306	Comp						Clear	FeA	90s
1307	Flat						Clear	Tung	4s
1308	Dark - 10 min			23 23 30					

Spectr. Temp. ..... Dome Temp./Hum. ...+4°C...49% Transparency Conditions ...PART. Cloudy.....70

Focus .....6.45..... pg#2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS BlueCell	G 600 1800	250μ no data	6560Å			14.2 K ADU/pixel MAX	
							"				
							"				
							"				
							"			14 K ADU/pixel MAX	
					G=4800 1800		4860Å			8-14 ADU/pixel MAX	
							"				
							"	9c		11 K ADU/pixel MAX	
							"				
					G5505 1800/51.7		5890Å	12c			
789		V= 7.3-7.7						13c	Cont = mean 1430 ADU sum of 4 cols		
420								14c		Part Cloudy	
464								15c		Cloudy	
								18c			

71 #3

Date 1991 MAR 28/29 Observers T.H

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1309	BIAS (4)								

Spectr. Ten
Focus
Spectr. Ten
Exp. Mtr

Spectr. Temp. ..... Dome Temp./Hum. 13.8°C 58% Transparency Conditions ..Snow..... 72..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS							
Note	Astro Clock was ahead of set time (header times) by 50secs Backed up to Perseus/CASS + normal to date										

T3 pg#2 Fri Sat

Emulsion Batches:

Date 1991 MAR 29/30 Observers ..Hdy...Pds...To.....

(TIMES FROM ASTO Clock) Astro Clock..23 secs ahead of WWV

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO 1310	Comp		" 1311	(Flat 4 secs	9+HD71148 posn TUNG, Clear)		FeAr	Clear	90s
1312 ✓	HD71148	08 20 38	+45 59	20 17 30	20 33 18	00 16 W			
1313 ✓	Comp						FeA	Clear	90s
1314 ✓	Comp						"	Clear	120s
1315 ✓	HD71148	08 20 38	+45 59	20 41 05	20 54 44	00 38 W			
1316 ✓	~~Comp~~ FLAT						FeA	Clear	30 2s
1317 ✓	~~Flat~~ Comp						FeA	Clear	120s
1318 ✓	~~HD~~ Comp						FeA	Clear	120s
1319	HD87901	10 03 03	+12 27	21 ~~10~~	21 ~~19~~ 30	00 46 E			
1320	BIAS(4)			~~21~~	~~21 H 30~~				
1321	Comp						FeA	Clear	120s
1322	FLAT	(AT HD87901 posn)					TUNG	Clear	30 2s
1323	FLAT	"					TUNG	Clear	4s
1324	Comp						FeA	Clear	90s
1325	HD87901	10 03 03	+12 27	21 ~~19~~ 40	21 30 30	00 27 E			
1326	Comp						FeA	Clear	90s

Spectr. Temp. ..... Dome Temp./Hum. 0°C ..... 55% Transparency Conditions ... Clearing, partly 74

Focus .... 6.85 ..... Pg #1 482 0 38 1024 4 1 CCOFMT

Spectr. Temp. ..... Dome Temp./Hum. ..... Note set time set to WWV time from DD074

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	G 5505 1800/51.7	2 Sec no decker	5890A				
7500	3"	V 6.27	dG4						Hdy - std	CCDT = -100.3°C	
~~7500~~											
					G6020 1800		6560A				
7520		V 6.27	dG4						Hdy-std		
										144 max ADU/pixel	
										CCDT = -101.8°C	
19,300		V 1.4	B7V						Regulus Std.		
~~29,300~~											
					G5505 1800/51.7		5890A				
35000		V 1.4	B7V								

75

pg #2

Date 1991 MAR 29/30 Observers Hdg Pdt Tan

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD1327 fls	Comp						clear	FeA	90s
1328	HD55575	07 08 25	+47 25	21 44 37	21 52 30	02 47 W			
1329	Comp						clear	FeA	90s
1330	Flat						clear	TUNG	4s
1331	FLAT						clear	TUNG	3.2
1332	Comp						clear	FeA	120s
1333	HD55575	07 08 25	+47 25	22 06 35	22 13 13	03 08 W			
1334	"	"	"	22 15 20	22 25 20	03 20 W			
1335	Comp						clear	FeA	120s
1336	Comp						"	"	120s
1337	HD84737	09 42 08	+46 29 [illegible]	22 37 30	22 41 16	01 03 W			
1338	Comp						clear	FeA	120s
1339	Flat						clear	TUNG	3.2s
1340	FLAT						clear	TUNG	4s
1341	Comp						clear	FeA	90s

Spectr. Tem
Focus
Spectr. Tem

Exp. Mtr.

7:00

7:20

13:40

2:00

Spectr. Temp. ..... Dome Temp./Hum. ~2.8°C..61% Transparency Conditions ... P.H.R.T...Cloudy..... 76

Focus ..... pg #2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
		~~5.58~~ ✓	~~GO~~	CCDCAMS Blue Cdl	G 5595 1800/	250u	5890Å				
7,100	3"	5.58	GO						Sp Std	Cloud again	
										CCDT = -101.3°C	
										14.0 MAX ADU / pixel	
					G=6020 1800/		6560Å				
7500	2.5"	5.58	GO						Sp Std	MAX ADU/pixel ≈ 3000	
13400	"							17ci		" " " 4800	
~~2~~ 7800	3"	✓ 5.11	G1 ✓		G6020 1800/		6560Å		Sp Std		
										4.7 ADU max/pixel	
					G 5505 1800/51.7		5890Å				
					"		"				

TT pg#3

Date 1991 MAR 29/30 Observers Hdg. Pdr. Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCD1342.fts	HD84737	09 42 08	+46 29 20	22 55 40	22 59 27	01 21 W				T500
1343 ✓	Comp						clear	FeA	90s	
1344 ✓	Comp						clear	FeA	90s	
1345 ✓	HD101501	11 35 47	+34 46	23 14 20	23 19 26	00 10 E				
1346 ✓	Comp							FeA	90s	T550
1347 ✓	Flat						Clear	Tung	4s	
1348 ✓	Flat						"	"	3.2	
1349 ✓	Comp			23 24 40			"	FeA	120s	
1350 ✓	HD101501			23 34 00	23 38 40					T570
1351	Comp					0				
Fmc0309.Tn	HD101501	11 3547	+3446	23 45		00 16W	+3415	4 frames		W m
1352	Comp						clear	FeA	120s	
1353	HD98230	11 12 51	+32 06	23 54 55	23 55 57					T510
1354	Comp						clear	FeA	120s	
1355	FLAT						"	TUNG	32s	

Spectr. Temp. ..... Dome Temp./Hum. -3.3°C 60% Transparency Conditions ..... CLEAR ..... 99 in ..... TG

Focus ..... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7500	2.5"	V 5.11	G1V	CCDCASS Blue 611	1800/5.7	25μ	5890Å		Sp Std	CCDT = -100.3°C	
	3"	V 5.35	G8V								
7850											
					G6020		6560Å				
7570								22 in			
"N" mode		V 5.11	G1V			750μ No Baker			Seeing test	Dome fixing SW	
7900		V 4.87	G0V								
										MAX ADU 14.2K	

79 #4

Date . 1991 MAR 29/30. Observers Hdg..Tns...Pds.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO 1356	FLAT						clear	TUNG	4s
1357	Comp						"	FeA	90s
1358	HD 98230	11 17 51	+32 06	00 06 40	00 07 43	01 00 W			
1359	Comp	for HD 90125 (No Comp after HD 98230)					clear	FeA	90s
1360	HD 90125	11 19 03	+02 52	00 18 33	00 36 00	02 23 W	"	"	90s
1361	Comp						clear	FeA	90s
1362	Flat						clear	TUNG	4s
1363	FLAT	[1364 is Comp Before #CCO 1365 exp]					"	"	3.2s
1365	HD 90125	11 19 03	+02 52	00 48 25	01 04 11	2 52 W			
1366	Comp						clear	FeA	1.2s
1367	BIAS (4)								
1368	Comp						clear	FeA	90s
1369	HD 197433	20 38.6	+75 14	01 20 10	01 26 50				400s
1370	"	"	"	01 28 10	01 34 50				400s
1371	"	"	"	01 36 30	01 43 10				400s

Spectr. Temp. ..... Dome Temp./Hum. -4°C ..... 64% Transparency Conditions ... clear 20

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... Astro clock (EST) 23 secs ahead of WWV

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	G 5505 /800/	250μ	5890Å				
3 7500	3-4"	V 4.87	GOV						Sp Std		
7500	3-5"	V 6.27	G9					26i	Sp Std	(10K ADU sym cont of 6 cols	
								27i	~~Sp Std~~		
								27		14.6 max ADU/pixel	
					G6020 /800/		6580Å	27		14.6 MAX ADU/pixel	
6000	4"	V 6.27	G9					27i			
								~~27i~~			
										CCDT = -101.9°C	
					G5505 /800/51.7		5890Å				
1460	4"	V 7.3-7.7	G3 +K7						~~Sp Std~~ Tidy pgm		
1480											
1310								28a			

81 Pg #5

Date 1991 MAR 29/30 Observers [Hdy] Tm Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
1372 ✓	HD 197433			01 44 00	01 50 40	6 36 E				1210
1373 ✓	Comp							Fet Clear	90s	
1374 ✓	Flat							Tung Clear	4s	
1375 ✓	HD 197433			02 01 00	02 07 40					1370?
1376 ✓	"			02 09 16	02 15 56					1000
1377 ✓	"			02 17 27	02 24 07	6 03 E				53%
1378 ✓	Comp							Fet	90s	
1379 ✓	FLAT							TUNG	4sec	
1380 ✓	HD 197433			02 54 55	03 01 35	5 24 E				950
1381 ✓	"			03 02 30	03 09 10	5 18 E				830
1382 ✓	"			03 10 12	03 16 52					750
1383 ✓	"			03 17 49	03 24 29	5 02 E				980
1384 ✓	Comp							Fet clear	90s	
1385 ✓	Flat					4 57 E	+75 34			
1386 ✓	HD 197433			03 32 43	03 39 20	4 47 E				91

Spectr. Temp. ..... Dome Temp./Hum. -4.2 / 64.8 Transparency Conditions Clear 82

Focus ... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1260		7.3 7.7	B3 +K7	coudes BlueColl	G5505 1800/61.7	2.5m	5890A	29ci			
1500?								30ci			
1000								31ci		Clouds	
536								32ci		Clouds	
										14K ADU/pixel max	
920								34ci			
820								35ci			
780								36ci			
980								37ci			
										13.8K ADU/pix max	
990								38ci			

83 Pg #6

Date 1991 Mar 29/30 Observers Tm Pdr [Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1387 ✓	HD 197433			03 41 55	03 48 35	-4 30 E			
1388 ✓	Comp							FeA Clear	90s
1389 ✓	Flat					-4 34 E	+75 ~~31~~	Tung Clear	4s
~~1390~~	Flat								
1391	Comp							FeA	90s
1392	Nova Her 1991			04 06 56	04 19 00	2 15 E			
1393	Comp at 6620Å								120s
~~1394~~	~~Nova Her 1991~~	(Lost, not written)		04 26 13	04 30 30				
~~1395~~	~~Comp~~	Used						FeA Clear	120s
~~1396~~	~~Flat~~	Used						Tung Clear	3.2s
1397	Flat	97						Tung	3.2s
1395	Comp	95						FeA Clear	120s
1396	Nova Her 1991	96		04 43	04 57 30				
1397	Comp	97						FeA Clear	90s

Spectr. Temp. ..... Dome Temp./Hum. -4.5 / 63.8 Transparency Conditions Partly Cloudy 84

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1140							5890Å				
1000							5890Å				
					G=6055 1800/		6620Å				
435								42 in		(Hα peak 6000 SUM AVG ADU over six columns)	
					G 6055		6620Å			14K max	
					G=6020		6560Å			13.8K MAX	
							"				
1300								43 in			

85 Pg #7

Emulsion Batches:

Date ....1991 Mar 29/30 Observers ....Tm. / Pdr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1398	Comp								
1399	Nova Her 1991			05 08 09	05 15 00	1 20 E			
1400	" "			05 15 50	05 23 30	1 10 E			
1401	Comp							Flat Clear	90s
1402	Flat					1 01 E	+18 46.	Tung Clear	15s
1403	Bias (4)								
1404	DARK 10m				05 48				

Spectr. Temp
Focus.....
Spectr. Temp

Exp Mtr.

Spectr. Temp. ..... Dome Temp./Hum. -4.9/59.9 Transparency Conditions ... Mostly clear ... 86

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -45°C 60%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS	1800/	250μ	4860Å			G = 4800	
660						44ci		~~42ci~~			
920						45ci					
						46ci					
					All locked up to Perseus / Cass & WORM						

87 pg #1 SAT SUN

Emulsion Batches: .....

Date 1991 MAR 30/31 Observers [Hdy] Pdr Tn ....

CCD "set time" set to WWV Time at START of Night

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
Fm000310.Tn	HD 65583	07 54 21	+29 31	19 55		00 11W	1/15 sec Int x 4	"N" mdlp.	
CCD1405.fts	Bias (H)			20 24					
1406	Comp for HD87901							FeA Clear	90s
1407	HD 87901	10 03 03	+12 27	20 35 00	20 35 47	01 18 E			
1408	~~Comp~~ HD 87901	"	"	20 37 10	20 37 48	01 16 E			
1409	Comp							FeA Clear	90s
1410	FLAT						clear	TUNG	4sec
1411	FLAT for VW Cep						"	"	4sec
1412	Comp						CLEAR	FeA	90s
1413	HD 197433 VW Cep	20 38 6	+75 14	20 54 10	21 00 50	11 23 E			
1414	"			21 03 00	21 09 40				400s
1415	"			21 11 00	21 17 40				400s
1416	"			21 18 20	21 25 00	10 50 E			400s
1417	Comp						clear	FeA	
1418	FLAT						clear	TUNG	4s

Spectr. Temp. ..... Dome Temp./Hum. -2.2°C 52% Transparency Conditions ... Photometric

Focus ..... 6.85 pg #1 Note CCD head warmed to Ambient Temp during DAY

Spectr. Temp. ..... Dome Temp./Hum. 482 0 38 1024 4 1 CCDFm1

Dome opened by 18:45 Fans on by 19:50 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31×31	Looks Good pixels	V=7.00	dG7			250μ (no darker)			Seeing Test	(no wind at all) Dome facing WSW	
				CCDCASS Blue Coll	6 1820/51.7°	250μ (no darker)	5890Å	G=5505		174 ADU T_{CCD} = 101.6	
36000		V 1.4	B7V						Regulus (Sp Std)	9500 MAX ADU/pixel	
38400		"	"						"	16,000 " " "	
										142 MAX ADU/pixel	
										137 " " "	
1500	2"	V 7.3-7.7	G3 +K7					6ci	Hdy pgm	CCDT = -101.6°C	
1520								7ci	=		
1410								8ci			
1420											

89 Pg #2

Date 1991 MAR 30/31 Observers Hdy... Pdc... Tg.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
1419	HD 197433	20 38 6	+75 14	21 34 50	21 41 30					15 Sec
1420	"			21 43 40	21 50 20					1:40
1421	"			21 51 30	21 58 16					1:55
1422	"			21 58 30	22 05 20					1:25
1423	Comp									
1424	FLAT									
1425	HD 197433			22 12 00	22 18 40					1:15
1426	"			22 20 00	22 26 40					1:30
1427	"			22 27 40	22 34 20	9 49 E				1:40
1428	"			22 35 00	22 41 40	9 42				1:45
1429	Comp									
1430	FLAT									
1431	HD 197433			22 47 20	22 54 00					1:30
1432	"			22 54 35	23 01 15					1:35
1433	"			23 01 30	23 08 [illegible]					1:40

Spectr. Tem
Focus.....
Spectr. Tem

Spectr. Temp. ..... Dome Temp./Hum. -3.2°C 54% Transparency Conditions 90

Focus ..... Pg #2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Rig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1500	2"	7.3 -7.7		CCD CASS Blue Coll	K600/5°17	9 Du Full length	5890A moderate				
1540											
1655											
1825								13 ci		CCD T = -101.7°C	
										13.9K ADU MAX	
1815								14	(c)	(obs in red)	
1770								15			
1700								16 ci			
1795								17 ci			
										13.9K ADU MAX	
720								18 ci			
685								19 ci			
1666											

91 Pg#3

Date 1991 Mar 30/31 Observers [Hay] Pdr Tw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
1434	HD 197433			23 08 25	23 15 10					460
1435	FLAT									
1436	Comp									
1437	HD197433	20 38 6	+75 14	23 20 40	23 27 20				400	1715
1438	"			23 27 46	23 34 26				400	1700
1439	"			23 35 20	23 42 00				400s	1630
1440	"			23 42 30	23 49 10				400	1700
1441	Comp						Clear	FeA	90s	
1442	Flat									
1443	HD197433			23 54 15	24 00 55					1730
1444	"			00 02 00	00 08 40	8 14 E				1700
1445	"			00 09 40	00 16 20					
1446	"			00 17 30	00 24 10					1700
1447	Comp							FeA Clear	90s	
1448	Flat							Tung clear	4s	

Spectr. Temp. ..... Dome Temp./Hum. -3.8 / 56.0 Transparency Conditions Clear 92

Focus 6.85

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1600						250	5890A	20i	Holy-pgm		
1715								21ci			
1600								22			
1630								23			
1760	<2"							24			
1830								25ci			
1860								26ci			
2080?											

93 Pg #4

Date 1991 Mar 30/31 Observers Tm Pdr [Hdy]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1449	HD 197433			00 32 20	00 39 00				
1450	"			00 40 20	00 47 00				
1451	"			00 48 00	00 54 40				
1452	"			00 55 00	01 01 40	07 20E			
1453	FLAT							TUNG	4s
1454	Comp							FeA	90s
1455	HD 197433	20 38.6	+75 14	01 07 00	01 13 40				400
1456	"			01 14 00	01 20 40				
1457	"			01 21 00	01 27 40				
1458	"			01 28 00	01 34 40				
1459	Comp						Clear	FeA	90s
1460	Flat						"	TUNG	4s
1461	HD 197433			01 40 40	01 47 20	06 36E			
1462	"			01 47 40	01 54 20				
1463	"			01 54 40	02 01 20				
1464	"			02 01 30	02 08 10				

Spectr. Tem
Focus.....
Spectr. Tem

Exp. Mtr.
2360
2400
2400
2450
2460
2450
2480
2500
2340
2430
2350
2400

Spectr. Temp. ..... Dome Temp./Hum. -4.2/59.1 Transparency Conditions ... Clear ... 74

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2260						25μ	5890Å				
2400								30c;	⑥		
2400	<2"							31c;			
2450	1.5"							32c;			
										13.6 max ADU/pixel	
2460		V 7.3 -7.7	G3 +K7	CCD (AS)				33c;	Good tri [illegible]	~~13.6~~	
2450	2"							34c			
2480								35c			
2500 ~W10x								36			
2300	<2"							37c;			
2430	<2"							38			
2350								39			
2460											

95 pg #5

Date 1991 Mar 30/31 Observers [Hdg] Tn Pdt

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
1465	Bias (4)									
1466	Comp			02 10				Fe Ar Clear	90s	
1467	Flat					6 10 E	75 24			
1468	HD 197433			02 14 50	02 21 30					240
1469	"			02 22 20	02 29 00					180
1470	"			02 29 50	02 36 30					050
1471	"			02 38 00	02 44 40					450
1472	FLAT					5 35 E	75 34			
1473	Comp							Fe A Clear	90s	
1474	HD 197433			02 53 00	02 59 40					
1475	"			03 00 40	03 07 20					195
1476	"			03 08 10	03 14 50					2020
1477	"			03 15 27	03 22 07					2060
1478	Comp									
1479	FLAT					4 57 E	75 34			

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 96

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										173 ADU	
										13.7K	
2240								41			
2100								42			
2050								43			
2050								44d			
								45d			
								45			
								45			
1995								46			
2020								47			
2060								48d			
								49			
								50		13.3K ADU max	

Pg #6

Date 1991 Mar 30/31 Observers Jm Pdr [Hdq]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
1480	HD 197433			03 29 20	03 36 00					2360
1481	"			03 36 10	03 42 50					2340
1482	"			03 43 20	03 50 00					2300
1483	"			03 50 10	03 56 50					2190
1484	Flat							Tung Clear	4s	
1485	Comp							Fe A Clear	90s	
1486	HD 197433			04 03 10	04 09 50					2450
1487	"			04 10 00	04 16 40					2560
1488	"			04 17 00	04 23 40					2580
1489	"			04 24 25	04 31 05					2560
1490	Comp							Fe A Clear	90s	
1491	FLAT									
1492	HD 197433			04 37 35	04 44 15					2470
1493	"			04 45 10	04 51 50					2750
1494	"			04 53 10	04 59 50					2580
1495	"			05 00 40	05 07 20					2550

Spectr. Temp. ..... Dome Temp./Hum. -4.7 / 60.1 Transparency Conditions Clear 98

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 482 0 38 1024 4 1 CCD FMT Sun 11

Hot spots Regular of Col 11 Rows 144 (str) & 145

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2300		7.3 -7.7						50 ci		CCDT = -101.7°C	
2360								49 ci			
2300	2.5"							50 ci			
2190								51 c.			
										13.3K ADU max	
2450								52			
2560								53			
2520								54			
2560								55			
2670								56 ci			
2750								57			
2580								58			
2650								59			

99 pg#7

Emulsion Batches: .....

Date 1991 MAR 30/31. Observers .....Pdr. T.n. [Hdy]. .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1496	FLAT						clear	TUNG	4
1497	Comp						clear	FeA	90s
1498	HD197433	20 38.6	+75 14	05 13 05	05 19 45	3 03 E			
1499	"			05 20 15	05 26 55				
1500	Comp						clear	FeA	90s
1501	BIAS(4)								
1502	DARK 400s								

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 100

Focus ..... pg # 7

Spectr. Temp. ..... Dome Temp./Hum. ..... -5°C ... 62%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCHS	1800	250μ	5890Å		G-5505		
2570	<5"	V 7.3-7.7	G3 + K7					60ci			
2930	<5"							60ci		Sky counting a Expander	
										CCD T = -101.6°C	

101 1991 Sun-Mon

Date MAR 31/APR 1 Observers Hdy Tn

Emulsion Batches:

note Set_time still = WWV time in 0.0074" ± 1 sec

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1503	Comp			19 25 30				FeA	90s
cc01504.fts	HD 87901	10 03 03	+12 27	19 29 08	19 51 44	1 57 E			
cc01505.fts	Comp							FeA	90s
1506	Flat							Tung	4s
1507	Flat							Tung	3.2s
1508	Comp							FeA	120s
1509	HD 87901	10 03 03	+12 27	20 01 12	20 15 28				
1510	Comp							FeA	120s
1511	BIAS (4)								
~~1512 Comp~~									

Spectr. Temp. ..... Dome Temp./Hum. +1.0°C/59.1% Transparency Conditions Cloudy in 02

Focus ..... 6.85 ..... AstroClock is 19.2 s fast AT 1:18 AM EST Apr 1 $\frac{\Delta T}{T} = 7.25 \times 10^{-6}$

Spectr. Temp. ..... Dome Temp./Hum. ..... CCD TEMP −101.3 C

482 0 38 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass Blue Cell	1800/55.7	250μ	5890Å	1ci	G=5505	(Slit with nodecker)	
20010	<2"	V 1.4	B7 $\bar{V}_n$					2ci	Regulus Sp Std	REGULUS Telluric Trailed slightly on purpose	
							5890Å		G=5505	14.6	
					1800/56.2	250μ	6560Å	~~3ci~~	G=6020	14.1 K	
3300								3ci ✓			
	3"	V 1.4	B7 $\bar{V}_n$					4ci		very cloudy now	
								5ci		WEAK, (source cutout)	
										All Backed up to Perseus. To here $\bar{V}_n$	

103 pg #1

Date 1991 APR 2/3 Observers TN SPD = Steve Doinidis

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc01512.fts	Comp						clear	FeA	40s
1513.fts	HD 655 83	07 54 21	+29 31	19 51 50	20 01 54	00 28W			
1514.fts	Comp						clear	FeA	40s
1515.fts	BIAS (4)								
Fin ~~3431.fts~~	HD 655 83 Seeing Test	07 54 21	+29 31		20 11	00 36W	"N" mode	4x Int	
1516	Comp			..			clear	FeA	40s
1517	BS 1621-068			20 24 32	20 54 32				
1518	BS 1621-068	1950 10 21 253	+23 05 13	20 54 14	21 20 16	00 36E			
1519	Comp						clear	FeA	40s
1520	Comp						"	FeA	40s
1521	BS 1621-017	1950		21 40 50	22 11 10	E			
1522	"	10 22 100	+27 55 06	22 11 47	22 46 00	00 48W			
1523	Comp							FeA	40s
1524	BIAS (4)								
1525	FLAT						clear	TWIG	12 sec

Spectr. Temp. ..... Dome Temp./Hum. 7.1°C ... 41% Transparency Conditions .. Fine - Slhazy .....

Focus . 6:85 (but looks in focus with fast focus test) CGAIN = 30

Spectr. Temp. ..... Dome Temp./Hum. ..... Dome opened @ 19 EST Fans on 19:50

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	600/9.5°	200μ	4100Å			G=2580	
2780	2"	700	dG7						Stellel	2x2k Hdw Sum of 6 cols	
											Mean 179.10 ± 13.37
							Note CCD Format 5400 30 1024 4 Quad Fmt				
Nowind	2"	700	dG7	4 frames		200μ	(away from mark)	▽	seeing test	Done SSW	
		~~10.71~~									
363		10:71 B						3ci		2 1.2k Hdw Sum of 6 cols	
334								4ci			
		B									
230	2"	11.18						~~5ci~~			
230								5ci		1075 Hdw Sum of 5 Cols	
											177.31 ± 13.32
										2 1.2 k Hdw/pixel/row	

105 pg #2

Date 1991 APR 2/3 Observers Steve (SPD) / TG

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
1526	BIAS (4)	90 c gain								
1527	FLAT						clear	TUNG	8 sec	
1528	Comp							FeA	40s	
1529	BS 1562-07	1950 10 22 10	+27 55 06	23 07 00	23 28 40	01 30 W				185
1530	Comp						clear	FeA	40s	
1531	Comp						clear	FeA	40	
1532	BS 1562-037	1950 11 59 37.3	+27 47 03	23 54 45	00 25 00	00 51 W				NO
1533	"			00 26 53	01 05 20	01 30 W				150
1534	Comp						clear	FeA	40s	
1535	BIAS (4)	90 c gain (shows graduation)								
1536	BIAS (4)	30 c gain (OK)								
1537	Comp						clear	FeA	40s	
1538	BS 1602-035	1950 13 06 21	+33 08 08	01 23 30	01 56 30	W				195
1539	"	"	"	01 56 50	02 27 20	01 45 W				200
1540	Comp						clear	FeA	40s	
1541	Flat						clear	TUNG	12s	

Spectr. Temp. ..... Dome Temp./Hum. -1°C 47% Transparency Conditions .....

Focus .....

Past FULL moon up by 23h

Spectr. Temp. ..... Dome Temp./Hum. .....

CHuygel To 90 Cgain home

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CHAS Blue Coll	600ℓ	200μ	4100Å			Mean=	138.19 σ=0.20
										MAX 11K ADU/pixel	
								6ci		CCDT = -100.4°C	
185	3"	B 11.18						7ci	of Row 239	1035 ADU sum of 5 cols ~~≈ 800 ADU sum of 4 cols~~	
										Another faint star 5' south of this one, none visible in finder	
110	2"	B= 12.71		(155.4×5 ADU sum of 5 cols)				8ci		≈ 15 ADU above DARK for 5 cols	
150	2"	4		(160×6 ADU sum of 6 cols)				9ci	(Sum of 2 in 8ci now)		
											137.71 σ=17.8
											177.49 σ=13.2
	~~2"~~	~~B=11.68~~						~~10ci~~		(NW of 3 stars within 10' fld)	
192	2"	B= 11.68						~~10ci~~	(bias subtracted)	↓ than (185 ADU sum Avg 5 cols continuum)	
200								~~11ci~~			
								12ci			
								13ci		3.5 - 11 K ADU/pixel	

(10) pg #3 Tues-Wed

Date 1991 APR 2/3 Observers SPD - TH

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
cc01542.fits	Comp									
1543	BS 16027-087			02 42 40	03 04 45					370
1544	"			03 05 10	03 26 44	2 48 W				720
1545	Comp (written over comp after BS 16027-087						clear	FeA	40s	
1546	~~HD 144579~~ Comp A	16 01.5	+39 24	03 36.57	03 45 00					530
1547	Comp									A
Fm 3147	HD 144579	seeing test		~3 50			4x Int	'N' male		
1548	BIAS (4)									
1549	Comp						cloud	FeA	40s	
1550	Nova Her 91			04 06 45	04 18 20					310
1551	"			~04 19	04 47					541
1552	"			04 47 13	05 09 20					431
1553	Comp						clear	FeA	40s	
1554	Nova Her 91			05 12 28	05 19 20					90
1555	Comp						clear	FeA	40s	
1556	BIAS (4)									

Spectr. Temp. ..... Dome Temp./Hum. -2°C 55% Transparency Conditions ..... SI hazy 1.8

Focus ..... #3

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					600/25	200μ	4100Å	14ci		CCD T = -101.8°C	
670								15ci		Fd drawn ~~[illegible]~~	
720	2"-3"							16ci			
		6·66	G8					17ci	Compa	+ HD144579	
4200								18ci			
4								19ci		(MAY BE SUSPICIOUS. G 2 may have jiggled)	
		666	G8						Light N W wind		
										mean = 178.22	
										σ = 13.81	
260		10·5 (according to IAU BULL)						20ci			
540								21ci	≈	scans ADU sum mean HY = 1200	
491								22ci			
400								93ci			
										178.19 σ = 14.20	

109 #4

Date ..APR. 2/3..... Observers ....T.H.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1557	FLAT						clear	TUNG	16s
1558	DARK 20m			0538					

Spectr. Ten
Focus.....
Spectr. Ten

Exp. Mtr.

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... Clear 110

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -28°C 63%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CAS Blue Coll	600/	200μ	4100Å		G=2580	MMX ADU 12K/pixel	
								3ci	while topping up	CCDT=-1020	
							Backed up to Pearsons to CCO 1557				
							~~Warned to CCO1554 I see~~ Tim				

111 pg #1 Wed-Thurs.

Emulsion Batches: .....

Date 1991 APR 3/4 Observers SPO/Tn Times ~~4 to clock~~

(ASTRO clock ~~A~~ head of set time 42sec) note Astr Clock used in logbook, ~~a head of~~

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCF00094	~~Comp~~ Comp posn	Focus Test					clear	FeNe	30s
CCF00095	Stellar posn	" "					clear	"	30s
CC01559.fts	Comp	Intended [~~A~~ Identified as HD065~~50~~]							
1560.fts	~~HD 65583~~	07 ~~54.3~~ 52.2	+29 ~~31~~ 29	195638	201530	0046 W			
1561.fts	Comp								
1562.fts	BIAS (4)								
~~1563.fts~~	~~unFLAT~~	~~OK after~~	~~All~~			0134E	~~+2605~~ clear	~~TUNG~~	~~8 sec~~
FM00035.Tn	HD ~~65583~~ HD065138	(done Right after 1560.fts exp)		~~1~~ 2016		0047W	Ind (4)	"N" make	
~~1564.fts~~	Comp	(CC01564.fts)		after all			clear	FeA	40s
CC1565.fts	BS 15621-002	WRONG STAR 1950 intended		2045	211715	0041~~W~~ E			
1566	"	10 26 ~~24~~ +26 14 18		21 1900	215030	0008E			
1567	Comp						clear	FeA	40s
1568	BIAS (4)								
1569	FLAT	(At BS 15621 posn)					TUNG		8sec
1570	Comp						clear	FeA	40s

Spectr. Temp. ..... Dome Temp./Hum. +4°C 52% Transparency Conditions . S/ Hazy, thin cloud .....

Focus .... G:85 still ..... pg #2 CCD format 540 0 48 1024 4 1 Fans on ; Dome open by 19.95

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT = −101.8 °C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	600/25°	200μ Rodeter	4100 Å	3ci	G=2580	Dome T = +3.8°C	
								4ci		STellar ~~7~~ 5 pixel Blue shift	
								5ci			
1330	2"	~~V~~ 9.4	AO	[Identified as HD65138]				6ci	WRONG STAR	Row 275 continuum ≈2k ADU sum AVG of 5 cols	
								7ci			
								1ci		mean = 177.91 σ = 10.33	
								2ci		15k ADU max/pixel	
4 frames		~~9.4~~	~~GG~~	No wind		200μ	4100 Å			Dome SW (no wind)	
								7ci		thin cloud	
290	<2"	B=11.98		[≈21 min RA West of intended (Found on SPDs charts very Faint)]				8ci		≈600 ADU sum AVG of 3 cols	
290	<2"	"						9ci		Fld drawn [Comp seen ≈3' NW of object]	
								10ci			
								1ci		mean = 178.56 σ = 10.79	
								2ci		35-15k ADU/pixel	

113 #2 Wed–Thurs

Date 1.9.91. APR 3.1.4..... Observers ..SPD.–Tg.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
		1950							
CCO1571	BS1562I-037	10 13 17.5	+24	223940	231500				
1572	BS1562I-037			231600	234800				
1573	Comp						clear	FeA	40s
1574	Comp						"	FeA	40
		1950							
1575	BS16026-000	12 14 15.4	+295149	23 5820	00 2300				
1576	"			00 2350	005030				
1377	Comp							FeA	40
1578	BIAS(4)								
1579	FLAT at next star posn (BS 16026-056)						clear	TiNG	7 sec
1580	Comp						"	FeA	40s
		1950							
1581	BS 16026-056	12 31 45.1	+30 56 21	010510	013510	0032W			
1582	"	"	"	013520	020600				
1583	Comp								
CCD	focus test Comp pos (CCF00096)			stellar	pos (cc F00097)		clear	FeA	40/40
	" " Comp posn CCF00098			"	"	99	"	"	"

Spectr. Temp. ..... Dome Temp./Hum. +14°C 50% Transparency Conditions ... Slt hazy ... 11

Focus ... 6.85 ... p4#2

Spectr. Temp. ..... Dome Temp./Hum. ..... 00074 encoder norm on

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
310	<2"	B 11.87			600/	200μ	4100Å	10c. ?		set to after reset of 00074 1.4K ADU sum AVG of 7 cols	
318								11c.	40K ADU sum AVG of 5 cols		
								~~12c.~~			
									(1.63K ADU on 5 cols)		
1055	<2"	B 10.43						12c.		(Fld checks out well)	
1125								13c.		CCDT = +00.3°C	
								14			
								1c.		mean = 178.26 σ = 10.79	
								2c.		3-13 K ADU/pixel	
								~~14c.~~			
520	(2.0±2")	B 11.17						14c.	1.35K ADU	sum AVG of 5 cols	
508								15c.			
T = +00.6 °C					600/	200μ	4100Å	(16/17c.)		focus set 6.85	
+00.6 °C								18/19		7:00 (Lights on at Red end)	

1115 Pg #3

Date 1991 APR 3/4 Observers SPD TG

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp Mtr.
CCD1584 fts	Comp						clear	FeA	40s	
1585 fts	BIAS(4)									
1586	BS 16027-038	13 08 28? (1950)	+32 44 11	02 45 10	03 17 00	W				257
1587	"			03 17 06	03 48 00	3 09 W				673
1588	Comp						clear	FeA	40s	
1589	Flat						"	TUNG	7sec	
1590	Comp						"	FeA	40s	
1591	HD144579	16 01 30	+3924	03 59 30	04 07 00	00 34 W				746
1592	Comp							FeA	40s	
Fm 0003 16 Tn	HD144579	16 01 30	+39 24	[illegible]04 08		00 36 W	4x Int	'N' mode		
1593	Comp							FeA	40s	
1594	Nova Her 91	18 44 13 (1950)	+12 10 51	04 37 20	4x 4 53	01 33 E				433
1595	Comp			04 37 20			clear	FeA	40s	
1596	Nova Her 91			04 56 20	05 09 00	E				450
1597	Comp						clear	FeA	40s	

Spectr. Temp. ..... Dome Temp./Hum. 106° F 55% Transparency Conditions ... Fine 116

Focus ... 7.00 ..... Focus changed during Top up @ 2:30 AM

Spectr. Temp. ..... Dome Temp./Hum. 106° F ... 55%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCHES	600/	200μ	4100Å	20c;			
								1c;		mean = 177.99 σ = 10.91	
267	<2"	1172						20c;		Fld Drawn	
273								21c;			
								~~22c~~			
										3-6-14 K 404 (pine)	
5406		6.66	G8					22c;	std vel		
~~5400~~											
31×31	<2"	6.66	G8	4 frames		200μ				Dome west (Rewind)	
430	<2"	~~7~~ 11						23c.			
450	<2"										

117 pg 4

Date 1991 Apr 3/4 Observers J.w./S.P.D

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
CCD 1598	FLAT			0512			clear	TUNG	7sec
1599	BIAS (4)								
1600	DARK (600s)			~0520					600s
	Noted Apr 4 @ 20 EST That Astro clock is ahead of WWV Time by 20 secs.								
	Remember, for this night that Astro clock was ahead "set-time" by 42 secs.								
	Apr 4		of CCD 2A						
CCF 00096	Focus test	Comp/stellar		23 EST		0 0	clear	FeNe	30/20
00097									
98	" "	Comp/stellar		2310		0 0	clear	"	"
99									

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... Clear .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					600/25	300μ	4100Å	25i		14K max/pixel mean= 177.56 σ=11.04	
							All	to	Perseus	(not focus tests)	
						Worried	To	CCO1599		I see Tu	
Focus Set 7.00					600/25	300μ	4100Å	6/7	T=+7.4°C	stellar 1 pixel Red (centre) ≈0.5 pixel Red (Red end)	
6.80					"	"	"	8/9	T=+7.4C	stellar 0.8 pixel Blue (centre) stellar 0.4 pixel Blue (centre) stellar 0.3 " " Red end	
							focus tests all on		Perseus / Tests too		

"9 Heurikon time set to WWV
astroclock 20s ahead of WWV

Date 1991 April 5/6 Observers S.p.d./Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1601	Bias (4)			21 24					
1602	Comp						Clear	Fe Ne	40s
1603	Comp							Fe A	40s
1604	HD 65583	07 52.2	+29 27	21 33	22 00 56				
1605	Comp			2			Clear	Fe A	40s
1606	Flat						Clear	Tung	7s
1607	Comp			22 33					
1608	HD 65583	"	"	22 39 30	22 59 30				
1609	Comp						Clear	Fe A	40s
1610	Flat							Tung	7
1611	Comp	1950.0					Clear	Fe A	40s
1612	BS 16026-001	12 15 23	32 16 19	23 22 05	23 52 45	~~23~~ 5			
1613	Comp								
1614	Flat								
1615	Comp								

Spectr. Temp. HRS ..... Dome Temp./Hum. 11.5 / 76.4 Transparency Conditions Hazy Part cloudy 120

Focus 6.80 .....

Spectr. Temp. ..... Dome Temp./Hum. 10.4 / 87.0 5400 0 48 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	600/25	200μ	4100		C=2580	Water on CCD window	
										for cc0101 mean =	174.04 σ = 10.81
880	3"										
										distorted by water on window	11.2K ADU MAX
											water on CCD window
4010											
433		A	B= 10.01							water on window	

(2)

Date 1991 April 5/6 Observers Spd/Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
1616	BS 16026-001			00 11 00	00 41 00	1 03 W				00
1617	Comp							FeA clear	40s	
1618	Flat							Turq	7	
1619	Comp.	(1950.0)								
1620	BS 16027087	13 03 39	28 32 38	01 04 10	01 34 10	1 06 W				610
1621	Comp									
1622	Flat									
1623	Bias (4)									
1624	Flat									
1625	BS 16027087			01 51 20	02 21 20					433
1626	Comp									
1627	Flat									

Spectr. Temp. ..... Dome Temp./Hum. 10.3 / 87.2% Transparency Conditions Part Cloudy 122

Focus 6.80

Spectr. Temp. ..... Dome Temp./Hum. 10.1 / 89.4 → 91.1 (closed down)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
700	3".5	B= 10.01	A	CCD Cass	600/25	200μ	4100A				
										Water again	
610											
										Water	
										mean = 176.29	
								23ci		σ = 11.89	
423								24ci			
								25ci			
										Closed down high humidity	
					All to Persey + WORM					up to CCD 1627.55	

123

Date 1991 Apr 6/7 Observers Pdr / Hdy

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCF00100	Comparism		02 10 →					Fe A Clear	45^s
00101	Stellar		02 13 →						

Spectr. Tem
Focus
Spectr. Tem
Exp Mtr

Spectr. Temp. ..... Dome Temp./Hum. 14 / 70% Transparency Conditions Cloudy i Part Cloudy...

Focus 6.70

Spectr. Temp. ..... Dome Temp./Hum. .....

174

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					1800/57.7	250μ in no decker	5890Å			T = 140	
									390016 1024 241 ccdfwt		
				using	xplot	best fit					
				for	comp &	stellar		at	6.70	setting (@ T = 140°C)	

175

Date 1991 Apr 7/8 Observers Pdr / [Hdq]

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
1628	✓ Bias			20 06						
1629	✓ Comp			20 13				FeA clear	120s	
1630	✓ HD 133640	15 00 30	+48 03	20 21 50	20 27 50	5 50 E				6250
1631	✓ "			20 29 30	20 35 45					6605
1632	✓ "			20 36 40	20 42 40					6170
1633	✓ "			20 43 00	20 49 00					6420
1634	✓ Comp								120	
1635	✓ Flat							Tung	15s	
1636	✓ HD 133640			21 07 00	21 13 30	5 00 E	47 45			6670
1637	✓ "			21 14 50	21 20 40					6550
1638	✓ "			21 22 30	21 28 30					6350
1639	✓ "			21 29 30	21 35 30					6100
1640	✓ Comp									
1641	✓ Flat			21 50				Tung ND.6	5s	
1642	✓ Comp			21 56				FeA clear	120s	

Spectr. Tem
Focus ... 6
Spectr. Tem

Spectr. Temp. ..... Dome Temp./Hum. 19.9/55.6 Transparency Conditions Clear 176

Focus 6.70 ASTRO CLOCK 17s faster than WWV

Spectr. Temp. ..... Dome Temp./Hum. ..... Hewrikon time set to WWV

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/	250μ	6560Å		Mean = 186.68 σ = 11.13	G=6020 Hα setting	
120s									4980 40	1024 4 1 ccd font	
0250		V= 4.76	dG1					3ci	[redacted]	44; Boo	
7605								4ci			
8170								5ci			
3420								6ci			
120								7ci			
15 20								8ci		12.5K ADU MAX	
8670								9ci			
7550	4"							10ci			
6750								11ci			
3100								12ci			
5s										14.3K ADU MAX	
14s											

127 #2

Date 1991 Apr 7/8 Observers Pdr / [Hdy] / Mki

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
1643 ✓	HD 133640			22 01 50	22 07 50					5400
1644 ✓	"			22 09 00	22 15 00	4 03 E				6390
1645 ✓	"			22 15 25	22 21 25	3 55 E				9610
1646 ✓	"			22 22 40	22 28 40					10150
1647 ✓	Comp									
1648 ✓	Flat							Tung ND.6	55	
1649 ✓	HD 133640			22 42 25	22 48 52					8900
1650 ✓	"			22 51 00	22 57 00					9770
1651 ✓	"			23 00 15	23 06 15					9460
1652 ✓	"			23 07 30	23 13 30	3 04 E				7860
1653 ✓	Flat									
1654 ✓	Comp									
1655	HD 133640			23 26 56	23 32 56					11300
1656	HD 133640			23:35:45	23:41:45					9400
1657	"			23:43:00	23:49:00					6400

Spectr. Temp. ..... Dome Temp./Hum. 18.6 / 56.4 Transparency Conditions Clear 128

Focus 6.70

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8400				CCD Cass	1800/	250μ	6560Å	14i	[redacted]	44; B00	
8390								15i			
7610								16			
10150								17			
8900								18i	3i	Clouds	
9790								18i			
9400								19i			
7800								20i		Clouds	
								22			
								22			
13,000.								22			
6,300.								23.		clouds	
6,000.								24		clouds.	

129 #3

Date 1991 Apr 7/8 Observers Pdr / [Hdy] / MKi

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1658	HD 133640			23:51:03	23:57:03				360s
1659	Fe-A Comp.			23:54:25					120
1660	HD 133640			00:11:42	00:17:42				360s
1661	"			00 19:15	00 25:15				
1662	"			00 28 10	00 34 10				
1663	"			00 35 40	00 41 40				
1664	Comp							Fe A Clear	120s
1665	Flat							Tung ND.6	5s
1666	HD 133640			00 56 15	01 02 15	1 15 E			
1667	"			01 04 00	01 10 00				
1668	"			01 11 20	01 17 20				
1669	Flat							Tung ND.6	5s
1670	Comparison								
1671	Bias (4)			01 42					
1672	Dark - 6m			01 43					

Spectr. Ter
Focus....
Spectr. Ter

Exp. Mtr.
7000
1:600
12,800
3200
1:400
0480
1560
1440

Spectr. Temp. ..... Dome Temp./Hum. 17.1 / 60.2 Transparency Conditions Few Clouds 1330

Focus 6.70

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7000	~~2~~				1800/	250μ	6560A	25		Some clouds	
								26			
13,500 -								26			
12,800								27			
13 200								28			
12 400								29 a			
								30			
								30		13.5K ADU MAX	
9400	2"							30			
10700								31			
4940								32		Clouds	
								33		↓	
					All in Perseus + WORM					mean = 182.92 σ = 11.24	
									up to cco1672.fts		

131

pg #1 Wed - Thurs

Date 1991 Apr 10/11 Observers KK (e. afternoon) / P.d.T. Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT 819	Comparison							FeNe	60s
820	Comparison							FeNe	90s
821	Flat					(I guess ND03 was in place and DIFFUSER IN Tn)		Tung A=1/2	72s
ce02517 Tn	BIAS (4)								
2518	Comp							ThA	10s
2519	HD 125351	14 13.4	35 58	00 57 10	01 57 12	00 38W			
2520	Comp (~~Spekcomp BKT~~)							ThA	10s
ce02521	Flat for HD 125351					00 40 W	+35 35	TUNG	120s
FIT 822	Comp for Sbect ~~Spekcomp.~~ SPEKCOMP. BKT					f18 Stop IN	DIFFUSER IN *	FeNe	90s
TAG FIT 823	HD 137909	15 23.7	+29 27	02 45 07	≈03 15				
TAG FIT 824	"			03 15 58	03 46 15	01 17 W			1805
825	Comp			03 49		f18 stop IN	DIFFUSER OUT	FeNe	90s
FIT 03 A. Tn	HD 137909	15 23.7	+29 27	04 07			W4x INT	"N" mode	

Spectr. Temp. ..... Dome Temp./Hum. +2°C. 54% Transparency Conditions .. Clearing... by..22.EST..

Focus ... Set Echelle Focus to .355 ccd smt wind dying down too.

Spectr. Temp. ..... Dome Temp./Hum. ..... 0 0 256 1024 4 1 s/ hazy 132

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				PCS	1800/51°	300μ	4860Å			Speckle setup	
										0".090 in 315°	
				CCD echelle echelle 17.75	xy rotary 1200 l/mm	80μ .269				mean = 194.12 CCD T = -101.9 °C σ = 4.56	
									Slit H = 400μ = .225	Tel Focus @ 2243	
12.71	10"*	B= 5.85	KO III	"	"					* variable seeing as expected	
									Slit rG		
								6 ci	H = 80μ = .185	1900 ADU max	
				PCS	1800/51°	30μ	4860Å	* NDØ.3 in for 3 secs		(Can't look into anything)	
100/90	variable poor *	B 3.93	FOp							* will do the frame on hole	
15/15											
39 x 39 pixels		B 3.93	FOp		Speckle Finder Field			1st Frame (Effelsberg hole)	(A off hole)	Plane facing west	

133 pg 2

Date 1991 APR 10/11 Observers Pdr — Th

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CeO 2522	BIAS (4)								
2523	Comp			~~04 26 25~~				ThA	10s
✓ 2524	HD137909	15 23 07	+29 27	04 26 25	05 05 00	2 38 W			
2525	Comp							ThA	10s
2526	FLAT							TUNG	
2527	"								
2528	"								
FJ100 826	FLAT for PCS speckle work			05 ~~4A~~ (on Time R)		Fig Stop IN ND=0.3 ~~0~~	Ap = 1/2 Diffuser IN flatfield	TUNG	720s

Note Apr 14.. This Flat (826) was done after a Spect Controler Failure and there may have been slight movement to grating when Reseting controler. In a pure way, this flat is not ideal for previous night speckle Obs, but relevant to next night.

Jn

Spectr. Temp. ..... Dome Temp./Hum. 0°C ..... 52% Transparency Conditions ..... hazy 134

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle Echelle 1725	X grating 1200/mm	80μ .269	4780Å	1c;	X grating tilt = .3520 H=400μ=.225	mean CCD T = −101.0°C	183.79 σ=4.63
								7c;		Tel focus 2.55	
2000	6"	B 3.93	FOp					8c;	H		
									H=600μ=.205		
A 2600/2000				PTS	1800/51°	300μ	4860Å				
								TO	CCD 2578 is noted to		
									have been put on WORM.		
										Tn	

135 Pg#1 Thurs-Fri

Date 1.9.91 APRIL 12... Observers ..Pdr.-Th.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02529	Bias (4)			1951					
2530	Comp			1955				ThA	10s
2531	HD 98839	11 17.2	+44 02	20 00 20	21 00 40	1 20 E			
2532	Comp							ThA	10s
2533-34	Flats							TUNG	120s
2535-36	FLats							TUNG	
2537	Comp							ThA	10s
2538	HD98839	11 17.2	+44 02	21 53 40	22 52 50	0 32W			
2539	Comp							ThA	10s
2540	Comp								
2541	HD115735	13 13 59	+50 12 29	23 00 50	23 57 50				
2542	Comp								
2543	Comp								
2544	HD133962	15 02 07	+48 32	00 12 10	01 07 00	0 56 E			
2545	Comp							ThA	10s
2546	Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. ..+3°C....50% Transparency Conditions ...MOSTLY..CLEAR.....126

Focus .....355.....

Spectr. Temp. ..... Dome Temp./Hum. ..... Topup @ MIDEST (0 0 256 1024 4 1) ;COEDIT 3 CHAN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	*			CCD Echelle ~~Echelle~~	x grating 1200 l/mm	80μ .769	4280Å	1	x grating tilt = .3520	Slit H = 60μ = .205 micrometer mean = 181.84 σ = 4.15	
								2		over 13 cols $\sqrt{\Sigma}$ 11.7K photons above dark	
1660	2"	B= 6.00	G8II					3		image: 2/3 600μ slit-capt. ∴ 4"	
								4			
						80μ .769	4280Å	4	x grating = .3520	17,000 ADU MAX/pixel Slit H = 500μ = .185 micrometer	
				(Echelle: 17.25 still)		80μ .769	4070Å	4	x grating = .3880	17,000 ADU MAX/pixel Slit H = 800μ = .685 micrometer	
								5	Slit H = 600μ	[Est 8.7K photons above dark for 11 cols]	
2313	1-4"	B= 6.00	G8II					6		FM000318.IN Take of Sky - view 39 x 39 (Int x 10)	
										CCDT = -101.7°C	
								7			
1680		B= 5.08	B9.5IIIp								
								8			
								8			
1252		B= 5.57	A0Va					8	x grating .3882	CCDT = -100.2°C	
										mean = 182.00 σ = 4.46	

137 pg #2

Date 1991 APR 11/12 Observers T.n./P.dt

Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
827	Comp (Spekcomp) BAT			01 17 20		f18 Stop IN	Diffuser OUT A = clear	FeNe	90s
TAKE FIT 828	HD 137909	15 23 07	+29 27	01 37 00	02 26 30	1 01 W			
829	Comp			0337		f18 Stop IN	Diff-out A-clear	FeNe	90s
CE0254.fts	Comp for HD137909							ThA	10s
✓ 2548	HD 137909	15 23 07	+29 27	041450	05 00 25	2 35W			
2549	Comp							ThA	10
2550	BIAS (4)								
2551	FLAT							Thng	120s
2552	FLAT							"	"
2553	DARK								90s
FIT 830	FLAT (for PCS)		on Timer						7.38s
CEF 65	focus - IN			T=	+6.00				20s
66	- OUT			F=	.255				20s

Spectr. Temp. ..... Dome Temp./Hum. 0°C 59% Transparency Conditions ... Sl. hazy ..... 138.

Focus ..... pg 62

Spectr. Temp. ..... Dome Temp./Hum. -1°C 65%

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
15/15				PCS	1800/51°	300μ	4860Å		KK speckle program		
120/130	3"-4"	B 3.93	FOp						Scan sp KK	Counts to 230/channel/ atmosphere	
									THG 00828.KK1 sent to Perseus \ Speckle and to Centaur CCD \ not Then deleted from Tel for space.		
										CCDT = -10.7°C	
				CCD Echelle 17.25 tilt	x grating 1200 @ 3880	80μ .269	4070Å		Slit H = 600μ	= .205 micrometer	
2900	4"	B 3.93	FOp								"
										CCDT = -10.6°C	IMAGE = 1 58.64 T = 9.67
									Sl. H = 500μ	1003 800 max pixel	
									Sl. H = 506μ		
					All CE OBS Ftp			to Perseus	All Ext Flat PCS Lgts		
				PCS	1800/5.0	300μ	4860Å			to Perseus \ PCS	
shift +033 pix				Noted that	All PCS			including	THG files are on WORM Tu		

139

Date 1991 Apr 17/18 Observers Srt/Pdz

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
~~2554~~	Bias (4)								
2555	Dark 15m								15m
2556	" "								"
2557	" "								"
2558	Bias (4)								
2559	Bias (4)								
2560	Comp			21 52				ThA	10^s
2561	HD 77912	9 00 10	38 51	21 59	22 29	2 49 W			
2562	"			22 29 50	23 00				
2563	Comp							ThA	10^s
2564	HD 77912	"	"	23 06 30	23 36 30	3 56 W			
2565	"			23 38 30	24 05 07	4 25			
2566	Comp							ThA	10^s
2567-71	~~Comp~~ FLAT					4 26 W	+38 35	TUNG	60^s
2572-75	~~HD 13156~~	~~14 46 46~~	~~19 30 57~~			"	"	"	"

Spectr. Ten
Focus.....
Spectr. Ten

Exp Mtr
217
211
151
133

Spectr. Temp. ..... Dome Temp./Hum. 4.3 / 73.2% Transparency Conditions Hazy 142

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... slit width 00 256 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H. Height	Program	Remarks	Quality
				CCD echelle	16.70	90μ .265	3934Å	600μ .205		x grating .412 1200 ℓ/mm	143.13 σ=6.65
											141.48 σ=6.79
											141.59 σ=6.84
217		B= 5,60	G II-II								
211										Comp source found on during 2 previous exposures	
151											
123	3" variable										
										Clouds	
								800μ .185			
		All in Perseus + WORM						1900μ .073			

141

Date 1991 April 18/19 Observers Srt / Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
02576	Bias (4)			17 48					
2577	Dark_15m			17 50					
2578	"								
2579	"								
2580	Bias (4)			18 58					
2581	"								
2582	Comp			20 08				ThA	10^s
2583	HD 94264	10 47 43	34 45 14	20 11 20	20 31 00	0 53 E			
2584	"	"	"	20 31 38	20 52 00				
2585	Comp							ThA	10^s
~~2586~~	~~Comp~~							ThA	10^s
2587	HD 113226	12 57 12	11 29 48	21 27	21 57	01 35 E			
2588	"	"	"	22 04	22 34 12				
2589	Comp								
~~2589~~	~~HD 113226~~	"	"	22 37					
2590	Comp							ThA	10^s

Spectr. Temp. ..... Dome Temp./Hum. 6.7 / 66.2 Transparency Conditions Hazy, some thin cirrus

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 4.9 / 74.8

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H. slit	Program	Remarks	Quality
				CCD echelle	16.70	90μ (width) .265	3934Å	600μ (Height) .205		x grating .410 meas 1200 ln/mm	146.32 σ=6.63
											145.71 σ=6.69
462		B= 4.87	K0 III - IV						46 LMi		
		B= 3.77	G8 III								
204										Heavy haze, cirrus	
55											
	2"									Clouds	

103 #2

Date 1991 Apr 18/19 Observers Srt/Pdr

Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2591	HD124897	14 11 06	19 42 11	23 07 35	23 28	1 18 E			
2592	"			23 28 28	23 48	0 57 E			
2593	Comp								
2594	HD124897	"	"	23 51	00 11	0 35 E			
2595	Comp							ThA	10^s
~~—~~	~~HD113226~~	~~—~~	~~—~~	~~00 22~~	~~—~~	~~—~~	~~—~~	~~—~~	~~—~~
2596	Comp							Th Ar	10 sec
2597	HD113226	$12^h 57^m 12^s$	$11° 29' 48''$	00:22	00:52				
2598	Comp							Th Ar	10 sec
2599	HD113226	"	"	00:57	01:27	01 55 W			
2600	Comp								
~~2601~~	~~Comp~~								
~~2602~~	~~HD180711~~	~~19 12 32~~	~~67 29 08~~	~~02:05~~					
2601-06	Flats					00h	+20 00		150^s

Spectr. Temp. ..... Dome Temp./Hum. 5.0 / 73.3 Transparency Conditions Cirrus, hazy 104

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 4.1 / 69.6 width Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2829		B= 1.19	K2III	CCD echelle	16.70	90μ 0.265	3934Å	600μ .205	α Boo		
4705											
9590											
										Clouds	
477		B= 3.77	G8III	CCD echelle	16.70	90μ 0.265	3934 A°	600μ 0.205	ε Vir		
324											
										Clouds	
								800μ .185			
		All in Perseus α-NORM									

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality

IAS
#1

Date 1991 Apr 22/23 Observers Hdy / Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cct0012.fts	BIAS (1)			22:43:30		0h	+43°5	BIAS	0
cct0021.fts	BIAS (1)				22:44:15				
cct0022.fts	FLAT			22:51:30		0h	+43°5	TUNG CLEAR	3.5s
cct0031.fts	FLAT				22:52:52				
cc001673.fts ✓	BIAS (4)			23:26:20					
cc001674 ✓	FLAT (TUNG)			23:27:20				TUNG CLEAR	3.5s
001675 ✓	FeA Comp	11		23:29:11				FeA CLEAR	120 s
001676 ✓	BV Dra HD 135421	15h9.9m	+62°13′	23:36:15	23:43:45				
001677 ✓	HD 135421			23:43:55	23:51:45				
001678 ✓	HD 135421			23:51:55	23:58:55				420s
001679 ✓	HD 135421			23:59:06	00:06:06				420s
001680 ✓	HD 135421			00:06:17	00:13:17				420s
001681 ✓	FeA comp			00:14:00	00:16:00			FeA CLEAR	120s
001682 ✓	TUNG FLAT			00:16:47				TUNG CLEAR	3.5s
001683 ✓	HD 135421			00:20:17	00:27:17	0h59m E			420s

Spectr. Temp. ..... Dome Temp./Hum. +4.8C / 80.45% Transparency Conditions OVERCAST → MOSTLY CLEAR 146

Focus ..... 0 CGAIN 512 0 38 1024 4 1 ccdfmt

Spectr. Temp. ..... Dome Temp./Hum. ..... CCD T = -101.85°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5505	250μ		1c;			
								10c.		10×BIAS	
								11c;			
								20c;		10×FLAT	
								1c;		mean = 185.70 σ = 11.68	
								2c;			
								3c;			
830								4c;		Brighter of Pair	
~~651~~ 651								5c;			
700								6c;			
740								7c;			
748								8c;			
								9c;			
								10c;			
810								11c;			

#2 147

Date 1991 Apr. 22/23 Observers Hdy /R;

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.
C 001684 ✓	HD 135421			00:27:26	00:34:26				420s	3.1
C 001685 ✓	HD 135421			00:34:38	00:41:38				420s	3.3
C 001686 ✓	HD 135421			00:41:50	00:48:50				420s	3.6
C 001687 ✓	HD 135421			00:49:04	00:56:04				420s	3.9
C 001688 ✓	HD 135421			00:56:16	01:03:16				420s	4.2
C 001689 ✓	TUNG FLAT								3.5s	
001690 ✓	FeA COMP			01:04:39					100s	
001691 ✓	HD 135421			01:08:40	01:15:40					5.2
CC001692 ✓	HD 135421			01:15:51	01:22:51					5.4
CC001693 ✓	HD135421			01:23:30	01:30:30					5.7
CC001694 ✓	HD135421			01:31:00	01:38:00	00h12w	+61°57.5			10.6
CC001695 ✓	HD135421			01:38:30	01:45:30					6.1
CC001696 ✓	HD135421			01:46:00	01:53:00					6.4
CC001697 ✓	COMP			01:56:00				Fe A/Comp	100s	
CC001698 ✓	FLAT			01:59:00					3.5s	

Spectr. Temp. ..... Dome Temp./Hum. +3.0°C/83.9% Transparency Conditions . MOSTLY CLEAR ..... 478 ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
847								12ci			
863								13ci			
806								14ci			
851								15ci			
850								16ci			
								17ci			
								18ci			
862								19ci			
924								20ci			
964								21ci			
1006								22ci			
946								23ci			
962								24ci			
								25ci			
								26ci			

#3 149

Date 1991 April 22/23 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC0001699	HD 135421			02:01:00	02:08:00				
CC0001700	HD 135421			02:08:30	02:15:30				
CC0001701	HD 135421			02:16:00	02:23:00				
CC0001702	HD 135421			02:23:30	02:30:30				
CC0001703	HD 135421			02:31:00	02:38:00				
CC0001704	HD 135421			02:38:30	02:45:30				
CC0001705	HD 135421			02:46:00	02:53:00				
CC0001706	FLAT			02:54:00				TUNG/CLEAR	3.5s
CC0001707	COMP			02:55:00				FeA/CLEAR	100s
CC0001708	HD 135421			02:58:00	03:05:00				
CC0001709	HD 135421			03:05:30	03:12:30				
CC0001710	HD 135421			03:13:00	03:20:00				
CC0001711	HD 135421			03:20:30	03:27:30				
CC0001712	HD 135421			03:28:00	03:35				
CC0001713	HD 135421			03:35:30	03:42:30				

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 150

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
921								27ci			
954								28ci			
941								29ci			
905								30ci			
925								31ci			
948								32ci			
916								33ci			
								34ci			
								35ci			
845								36ci			
734								37ci			
784								38ci			
798								39ci			
755								40ci			
739								41ci			

#4 151

Date 1991 Apr 22/23 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC8617	COMP			03:43:30				FoA/CLEAR	1W5
CC8618	FLAT			03:47:00				FUJI/CLEAR	3.5s
CC8619	HD 135421			03:48:15	03:55:15				
CC8620	HD 135421			03:55:30	04:02:30				
CC8621	HD 158148	A 22 30	+20°09 55"	04:28:00	04:31:14				
CC8622	"	"	"	04:34:57	04:37:09				
CC8623	FLAT			04:38:31				TUNG/CLEAR	3.5s
CC8624	COMP			04:39:16	04:41:30				1W5
CC8625	BASIS (4x)								
CC8626	SKY			04:46:26	05:07:00				

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... 1.5.2.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 1.8°C....82%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								42ci			
								43ci			
653								44ci			
723								45ci			
6000								46ci			
6000								47ci			
								48ci			
								49ci			
								1cj		mean = 196.13 σ = 11.30	
50,000								50ci			

153

Date 1991 Apr 23/24 Observers Hdy - Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cct0032.fts	10 BIASES			22:03:40		0h	+43°5		
cct0041.fts					22:04:16				
cct0042.fts	10 FLATS			22:07:40	22:08:16 ← FIRST 5			TUNG CLEAR	3.5s
cct0051.fts				22:09:00	22:09:36 ← LAST 5				
cct0052.fts	10 BIASES			22:12:25	[illegible]				
cct0061.fts					22:13:06				
cct0062.fts	10 FLATS			22:16:00	22:16:30 ← FIRST 5				1.8s
cct0071.fts				22:17:35	22:18:05 ← LAST 5				
cct0072.fts	10 BIASES			22:21:32					
cct0081.fts					22:22:23				
cct0082.fts	10 FLATS			22:25:09					0.9s
cct0091.fts					22:26:00				
cct0092.fts	DARK LIGHTS OFF			22:51:30	(23:21:30)				1800s
cct0093.fts	DARK "	< RESET HEURIKON		23:27:49	(23:57:49) AST CLOCK TIME				1800s
cct0094.fts	DARK "			01:19:34	(01:49:34) CST TIME				1800s

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions OVERCAST 154

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +8.6°C/66.2% 508 0 38 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5505	250μ		5ci		0 cgain T=-101.8°C	
								14ci			
										30 cgain	
										90 cgain	
								55ci			
								64ci			
								64ci		0 cgain	
								63ci		30 cgain	
								62ci		90 cgain T=-101.9°C	
										SET TO 30 cgain afterwards	

pg #1 155

Date 1991 Apr 24/25 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCØ1724.fts	FLAT			19:52:28				TUNG / 4	20s
CCØ1725.fts	FeA COMP			19:55:02				FeA CLEAR	100s
CCØ1726.fts	BIAS (4) 5sec delays			19:57:53					
NOT SAVED	MOON			20:05:15	20:07:52				
NOT SAVED	MOON			20:16:50	20:17:50				
	MOON			20:20:50 ~~20:[illegible]:25~~	20:26:50		-0°58.6		
CCØ1727.fts	SCATTERED LIGHT FROM MOON			20:30:50	20:31:29				
CCØ1728.fts	MOON TRAILED	MOON "FLATS"		20:34:45	20:37:12	00:43E	-0°49.6		
CCØ1729.fts	MOON TRAILED			20:38:25	20:40:50	00h 38E	-0°3'		
CCØ1730.fts	MOON TRAILED			20:42:28	20:45:05	00h 36E			
CCØ1731.fts	FLAT			20:48:00				TUNG / CLEAR	[illegible]
1732	FLAT							TUNG / CLEAR	12.5s
1733	FLAT							TUNG / CLEAR	12.5s
1734	FLAT							TUNG / CLEAR	12.5s
1735	FLAT							TUNG / CLEAR	12.5s

Spectr. Temp. ..... Dome Temp./Hum. 10:3°C 65.4% Transparency Conditions 156

Focus ..... FANS "ON" 512 0 38 1024 4 1 ccdfmt

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT=-100°C 90cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/4800	250μ		3ci	Hyd Prog.	CCD FILLED UP @ 19:35	
				"	"	250μ		4ci			
				"	"	250μ		1ci		mean=135.95 5sec delays between echo=522	
				"	"	250μ		5ci		SATURATED	
				"	"	250μ		5ci		SATURATED	
88000				"	"	250μ		5ei		PARTLY SATURATED	
						1		5ei		NOT TRAILED ON MOON Ø cgain CLOUDS SCATTERED LIGHT NORTH OF MOON	
						"		6ci		Ø cgain THIN CLOUDS	TRAILED AT "SETTING"
						"		7ci		OCGAIN NO CLOUDS	SEED IN RA ACROSS THE ENTIRE WIDTH OF THE MOON
								8ci		OCGAIN NOCLOUDS	
								9ci			
								10ci			
								11ci			
								12ci			
								13ci			

#2 15"

Date 1991 April 24/25 Observers ... Holy-Ri

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC#1736	FeA Comp			20:54:32				FeA / CLEAR	120s
1737	BIAS(4)			20:57:00					
1738	BIAS(4)			20:59:00					
1739	FLAT			21:1[illegible]:00				TUNG / ¼	~~18s~~
CC#1740	COMP			21:13:00				FeA / CLEAR	120s
1741	HD 135421	15 9.9	+620 13'	21:17:12	21:24:12				
1742	"			21:24:18	21:31:18				
1743	"			21:32:00	21:39:00				
1744	"	"	"	21:39:30	21:46:30				
1745	"	"	"	21:47:00	21:54:00				
1746	COMP			21:56:00				FeA / CLEAR	100s
1747	FLAT			21:59				TUNG / ¼	18s
1748	HD 135421			22:01:00	22:08:00				
1749	"			22:08:30	22:15:30				
1750	"			22:15:35	22:22:35				
1751				22:23:00	22:30:00				

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 158

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 8.5°C ... 60.2%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/4800	250		14ci		Øcgain	
				"	"	"		1ci		Øcgain mean =	187.86 σ=11.53
								1ci		9Øcgain	135.06 σ=15.32
				CASS CCD	1800/4800	250	CCD	15ci		9Øcgain	
				"	"	"	"	16ci		"	
820		7.8		"	"	"		17ci			
820					"		"	18ci			
825					"	"	"	19ci			
850				"	"	"	"	20ci			
813				"	"	"	"	21ci			
				"	"	"	"	22ci			
				"	"	"	"	23ci			
997								24ci			
1030								25ci			
1155								26ci			
1114								27ci			

#3 159

Date 1991 April 24/25 Observers Hdy - Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
1752	HD 135421	15h 9.9	+62° 13'	2230:30	22:37:30	2h41E	+61° 57			1160
1753	FLAT			22:38:30				TUNG ¼	18s	
1754	COMP			22:40				Fe A CLEAR	100s	
1755	HD 135 421	15h 9 9	+62° 13'	22:42:30	22:49:30					1578
1756	"	"	"	22:50:00	22:57:00					398
1757	"	"	"	22:57:30	23:04:30					1376
1758	"	"	"	23:05:00	23:12:0					1454
1759	"			23:12:30	23:19:30	1h57E	+61 57'			1320
1760	COMP			23:21				Fe A CLEAR	100s	
1761	FLAT			23:24				TUNG ¼	18s	
1762	HD 135421	15h 9.9	+62013'	23:25:30	23:32:00					1418
1763				23:32:30	23:39:30					1405
1764				23:40:00	23:47:00					1347
1765				23:47:30	23:54:30					1434
1766				23:55:00	00:02:00	1h16E	+61°57'			1512
1767	FLAT			00:03				TUNG ¼	18s	

Spectr. Temp. ..... Dome Temp./Hum. 8.4°C...60-2% Transparency Conditions . Good ..... 160...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1160		7.8		CASS CCD	1800/4808	250		28ci		90c gain	
				"	"	250		29ci			
				"	"	"		30ci			
1278		7.8		"	"	"	"	31ci			
1398								32ci			
1376								33ci			
1454				"	"	"		34ci			
13:20								35ci			
				"	"	"	"	36ci			
				"	"	"	"	37ci			
1418		7.8		"	"	"	"	38ci			
1405								39ci			
1397								40ci			
1341								41ci			
1440								42ci			
								43ci		K353 ADU	

#4 161

Date 1991 APR 24/25 Observers Hdy - Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1768	COMP			00:04				Fe A / CLEAR	100s
1769	HD 135421	15h 9.9	+62° 13	00:07	00:14				
1770	"	"	"	00:14:30	00:21:30				
1771	"	"	"	00:22:30	00:29:00				
1772	"	"	"	00:29:30	00:36:30				
1773				00:37:00	00:44:00	00h38E	+61°57'		
1774	COMP			00:45				Fe A / CLEAR	100s
1775	FLAT			00:48				TUNG / ¼	18s
1776	HD 135421	15h 9.9	+62° 13	00:49:00	00:56:00				
1777	"	"	"	00:56:31	01:03:30				
1778	"	"	"	01:04:00	01:11:00				
1779				01:11:30	01:18:30				
1780				01:19:00	01:26:00	00h07W	+61°58'		
1781	FLAT			01:27				TUNG / ¼	18s
1782	COMP			01:28				Fe A / CLEAR	100s
1783	HD 135421			01:30:30	01:37:30				

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ~~Good~~ ..... 162 ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				~~CAS~~ CCD	1800/4800	250μ		44ci		90 cgain	
1539		7.8		"	"			45ci			
1515				"	-			46ci			
1524				"				47ci			
1455				-	-			48ci			
1378								49ci			
				"	-	"		50ci			
				"	-	-		51ci		14200 ADU	
1332								52ci			
1365								53ci			
1343				-	-	"		54ci			
1237								55ci			
1075								56ci			
								57ci		14531 ADU	
								58ci			
1006								59ci			

E_5 163

Date 1991 APRIL 24/25 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
1784	HD135421	15H 9.9	+62°13'	01:38:00	01:45:00					1007
1785				01:45:30	01:52:30					994
1786				01:53:00	02:00					1005
1787				02:00:30	02:07:30	0H 48W	+61°58			1000
1788	COMP			02:09:00				FeA CLEAR	10s	
1789	FLAT			02:26:00				TUNG 1/4	18s	
1790	HD135421	15H 9.9	+62° 13	02:27:10	02:34:10					1034
1791	"	"	"	02:34:30	02:41:30					1050
1792	"	"	"	02:42:00	02:49:00					1065
1793	"			02:49:30	02:56:30					1035
1794	"			02:57:00	03:04:00					1037
1795	FLAT			03:05				TUNG 1/4	18s	
1796	COMP			03:06				FeA CLEAR	100s	
1797	HD135421	15 9.9	+62° 13	03:08:30	03:15:30					1049
1798	"			03:16:00	03:23:00					1052
1799				03:23:30	03:30:30					1046

Spectr. Temp. ..... Dome Temp./Hum. 7.2°C ... 59.9% Transparency Conditions ... Good ... 164 ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1007		7.8		CASS CCD	1800/4800	250		60ci		90 cgain	
994								61ci			
1005								62ci			
1000								63ci		ERROR #33 HARDWARE ERR0; 68000 Add EXCEPTION	
				〃	〃	〃		64ci			
				〃	〃	〃		65ci		14858 ADU	
1024		7.8		〃	〃	〃		03ci			
1150								4ci			
1165								5ci			
1335								6ci			
1437								7ci			
								8ci		14847 ADU	
								9ci			
1448								10ci			
1440								11ci			
1316								12ci			

#6 165

Date 1991 APR 14 24/25 Observers .. Hdy - Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1800	HD 135421	15 9.9	+62°13	03:31:00	03:38:00				
1801	"	"	"	03:38:30	03:45:30				
1802	COMP			03:46:20				Fe A / CLEAR	100s
1803	FLAT			03:48:40				TUNG / 4	18s
1804	HD 135421			03:50:00	03:57:00				
1805	"	"	"	03:57:30	04:04:30				
1806	"	"	"	04:05:00	04:12:00	2h34m W	+61°58'		
1807	FLAT			04:13:30				TUNG / 4	4s
1808	COMP			04:14:30				Fe A / CLEAR	100s
1809	HD 158148	17:22.5	+20 10	04:23:00	04:25:36				
1810	HD 158148	"	"	04:27:10	04:29:47	0h58m W	+20°5'		
1811	COMP			04:31:30				Fe A / CLEAR	100s
1812	FLAT			04:33:00				TUNG / 4	18s
1813	BIAS(4)			04:35:30					
CC01814	DARK			04:41:30	04:56:30				

Spectr. Temp. ..... Dome Temp./Hum. +6.8°C 58.4% Transparency Conditions ... good ..... 166 ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +6.6°C ... 57.6%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1406		7.8			1800/4800	250		13ci		90c gain	
1474								14ci			
					"	"	"	15ci			
					"	"	"	16ci		15057 ADU	
1620								17ci			
1654								18ci			
1606								19ci			
								20ci		14923 ADU	
								21ci			
6000		5						22ci			
6000		5						23ci			
								24ci			
								25ci		14653 ADU	
								1ci		mean = 132.72 σ = 15.11	
								26ci			

167

#1

Date 1991 April 25/26 Observers Pdr/[Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CCD 1815 ✓	Bias (4)									
1816 ✓	Flat							Tung A=1/4		
1817 ✓	Comp			20 47				FeA Clear	100s	
1818 ✓	HD 135421	15 09 54	+62 13	20 58		4:09 E			420s	1600
1819 ✓	"	"	"	21 07	21 14	4:09 E				1590
1820 ✓	"	"	"	21 16 10	21 23 30	3 50 E				
1821 ✓	"	"	"	21 26 05	21 33 05	3 42 E				1610
1822 ✓	"	"	"	21 35	21 42	3 33 E				1525
1823 ✓	Comp							FeA Clear	100s	
1824 ✓	Flat							Tung A=1/4	18s	
1825 ✓	HD 135421	"	"	21 59 30	22 06 30	3 08 E				1375
1826 ✓	"	"	"	22 08 26	22 15 26					1540
1827 ✓	"	"	"	22 17 20	22 24 20	2 50 E				150
1828 ✓	"	"	"	22 25 50	22 32 50	2 41 E				1578
1829 ✓	"	"	"	22 33 45	22 40 45	2 34 E				970

Spectr. Tem
Focus ..6
Spectr. Tem

Spectr. Temp. ..... Dome Temp./Hum. 11.9/49.2 Transparency Conditions Clear 168...

Focus 6.70 ..... 512 0 38 1024 4 1 ccdfmt

Spectr. Temp. ..... Dome Temp./Hum. ..... FANS "OFF" 90 Cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCass	1800/45.2°	250μ	Hβ	1ci		G=4800 H BIAS m_{eqw}=140.76 σ=14.67	
								2ci		15.5K ADU MAX	
								3ci			
1600	~3"	7.8						4	BV Dra		
1590								5			
~~1570~~								6			
1610								7			
1525								8			
								9			
								9		14.5K	
1375								10			
1300								11			
1150								12			
1058								13			
970								14			

169 #2

Date 1991 April 25/26 Observers Pdr / [illegible]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
1830	✓ Comp							Fe A clear	100s	
1831	✓ Flat							Tung A=1/4	18s	
1832	✓ HD 135421	15 09 54	+62 13	22 52 20	22 59 20					707
1833	✓ "	"	"	23 00 40	23 07 40	2 07 E				715
1834	✓ "	"	"	23 09 10	23 16 10	1 58 E				725
1835	✓ "	"	"	23 17 05	23 24 05	1 50 E				930
1836	✓ "			23 25 20	23 32 20	1 42 E				1030
1837	✓ Flat							Tung A=1/4	18s	
1838	✓ Comp							Fe A clear	100s	
1839	✓ HD 135421			23 43 00	23 50 00	1 24 E			420s	1250
1840	✓ "			23 52 00	23 59 00	1 15 E			"	140
1841	✓ "			00 00 15	00 07 15				"	~1600
1842	✓ "			00 09 02	00 16 02				"	~1800
1843	✓ "			00 17 00	00 24 00	0 50 E.			"	~410
1844	Comp.			00 27 45				Fe-A Clear.	100s	

Spectr. Temp. ~~10.1/50.7~~ Dome Temp./Hum. 10.1/50.7 Transparency Conditions Few Cirrus 17a

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/45.2	250μ	Hp	15			
								15		15.4K ADU MAX	
707	~3.5"	7.8	~~3.5~~"					15a	BV Dra		
715								16			
745								17			
930								18			
1030								19			
								20			
								20			
1250								20			
1440								21			
~1500								22			
~1600								23			
~1480								24			
								25			

171 #3

Date 1991 April 25/26 Observers Mki/Pdr/[Hdy]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
cc 0 1845.1	Flat			0 31 06.				Tung A=1/4	18"	
1846 ✓	HD 135421	15 09 54	+62 13		0 43 30				420	~.056
1847 ✓	"			0 45 10	0 52 10				"	~.15
1848 ✓	"			0 53 07	1 00 07				"	~.13
1849 ✓	"			01 01 10	1 08 10	00 06 E				
1850 ✓	"			01 13 30	01 20 30	00 06 W				1205
1851 ✓	Flat							Tung A=1/4	18	
1852 ✓	Comp							FeA Clear	100s	
1853 ✓	HD 135421	"	"	01 31 30	01 38 30	00 24 W				190
1854 ✓	"			01 41	01 48					066
1855 ✓	"			01 51	01 58	00 44 W				.27
1856 ✓	"			01 59 10	02 06 10	00 52 W				350
1857 ✓	"			02 07 20	02 14 20	01 00 W				925
1858 ✓	Comp									
1859 ✓	Flat									

Spectr. Temp. ..... Dome Temp./Hum. 8.5/55.5 Transparency Conditions .Some cirrus .72.
Mostly Clear

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800 / 45.2	250	Hp	25			
~1650		7.8						25	BV Pra		
~1500								26			
~1300.								27			
								28			
1205								29			
								30			
								30			
1090								30			
1066								31			
1027								32			
950								33			
923								34			
								35			
								35			

173 #4

Date 1991 Apr 25/26 Observers Pdr / [Hdy]

Emulsion Batches: .....

.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
CCD 1860 ✓	HD 135421	15 09 54	+62 13	02 21 40	02 28 40	1.15 W				668
1861 ✓	"			02 30 05	02 37 05					600
1862 ✓	"			02 38 10	02 45 10	1 31 W				604
1863 ✓	"			02 46 00	02 53 00					594
35, 1864 ✓	"			02 53 55	03 00 55	1 46 W				523
1865 ✓	Flat							Tung A=1/4 FeA clear	18s	
1866 ✓	Comp								100s	
1867 ✓	HD 135421	"	"	03 12 30	03 19 30					411
1868 ✓	"	"	"	03 21 40	03 28 40	2 14 W				493
1869 ✓	Comp									
1870 ✓	Flat									
1871 ✓	Bias (4)									
	FM000319.PDR	HD 163075		(no object name, no observer name)						
	FM000320.PDR	"	"	(only 3 frames)						
1872 ✓	Comp							FeA clear	100s	

Spectr. Temp. ..... Dome Temp./Hum. 8.4 / 60.7 Transparency Conditions Haze or Cirrus.....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

174

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
668		7.8		CCD Cass	1800 / 45.2	250μ	Hβ	~~35~~	BV Drm		
600	3"							36			
604								37			
594								38			
523								39			
								40		15.3K ADU MAX	
								40			
411								40			
293								41			
								42			
								42			
										mean = 133.47 σ = 15.23 HBIAS	
								43			

175 #5

Date 1991 Apr 25/26 Observers Pdr / [Hdy]

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD1873 ✓	HD158148	17 22 30	+20 10	04 13 15	04 29 25				
CCD1874 ✓	Comp								
1875 ✓	Flat								
1876 ✓	BIAS (4)			4:37:47					

Spectr. Ten
Focus.....
Spectr. Ten

Exp. Mtr
6000

Spectr. Temp. ..... Dome Temp./Hum. 8.2 / 63.0 Transparency Conditions Hazy ..... 176..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

$T_{CCD} = -102.05$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6.000		5			1800 / 45.2	250	Hβ	43a		[illegible]. star	
										H BIAS mean = 133.81 σ = 15.21	
		All backed up to Perseus + WORM									

Position Exp.

ITT

Date 1991 April 26/27 Observers Pier / [Mk] (I calling in)

Emulsion Batches: FANS "ON"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FM 000 321. PDR	HD 85373	09 46 18	+38 24		20 41		"N' mod	4/80 sec int	
CCO 1877 ✓	Bias (4)								
1878 ✓	Comp			21 02				Fe A clear	100s
1879 ✓	Flat			2105				Tung A=1/4	18s
1880 ✓	HD 135421	15 09 54	+62 13	21 09 20	21 16 20	3 55 E			
1881 ✓	"	"	"	21 18 20	21 25 20	3 46			
1882 ✓	"	"	"	21 26 40	21 33 40	3 38 E			
1883 ✓	"	"	"	2135	2142	3 29			
1884 ✓	"	"	"	2143	2150	3 21 E			
1885 ✓	Flat							Tung A=1/4	18s
1886 ✓	Comp							Fe A Clear	100s
1887 ✓	HD 135421	"	"	22 02	22 09	3 02 E			
1888 ✓	"	"	"	22 10 40	22 17 40				
1889 ✓	"	"	"	22 18 30	22 25 30	2 46 E			
1890 ✓	"	"	"	22 26 55	22 33 55				

Spectr. Temp. ..... Dome Temp./Hum. 13.5/46.2 Transparency Conditions few clouds + Haze .....

Focus 6.70 ..... 90 cgain 178

Spectr. Temp. ..... Dome Temp./Hum. ..... 511 0 38 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V= 6.74	FOV	CCDCass	1800/45.2	250μ	Hβ 486 Å		seeing test Dome south	31x31 box	
					G=4800					mean: 142.61 σ: 19.50	
										15.6K ADU MAX	
868								4a	BV Dra		
1020								5a			
1009	~2"							6a			
1012								7a			
980								8a			
								9a		15.7K	
								9a			
742								9a			
955								10a			
988								11a			
965								12a			

179 #2

Date 1991 Apr. 26/27 Observers Pdr/[MKi]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cco1891	HD 135421	15 09 54	+62 13	22 34 35	22 41 35	2 30 E			
01892	Comp								
01893	Flat								
01894	HD 135421	"	"	22 51 45	22 58 45	2 12 E			
01895	"	"	"	23 00 10	23 07 10				
01896	"	"	"	23 09	23 16				
01897	"	"	"	23 17 40	23 24 40				
01898	"	"	"	23 26 40	23 33 40	1 37 E			
01899	Flat								
01900	Comp								
01901	HD 135421	"	"	23 43 30	23 50 30				
1902	"	"	"	23 52 00	23 59 00				
1903	"	"	"	00 00 00	00 07				
1904	"	"	"	00 08 30	00 15 30				
1905	"			00 18 30	00 25 30				

Spectr. Temp. ..... Dome Temp./Hum. 12.9/49.2 Transparency Conditions ... Clear ..... 1.80.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
984		7.8		CCD Cass	1800/45.2	250μ	Hp	13ai	BV Dra		
883								14ai			
								15			
950								16			
860								17			
877								18			
								19		15.4K ADU MAX	
								19			
	~2.5"							19			
670	3.5"							20ai			
720											
1080								22			
940								23		Large movement along slit.	

181 #3

Date 1991 Apr 26/27 Observers Pdr / MKi (arr. 0^hr)

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc 0 1906 ✓	Comp			00 27 30				Fe A Clear	100
1907 ✓	Flat			00 31 00				Tung A=1/4	18
1908 ✓	MD 13542 1	15 09 54	+62 13	00 34 30	00 41 30				420
1909 ✓	"			00 44 40	00 49 40				"
1910 ✓	"			00 50 30	00 57 30				"
1911 ✓	"			00. 58 30	01 05 30				
1912 ✓	"			01 06 20	01 13 20				
1913 ✓	Flat							Tung A=1/4	18^5
1914 ✓	Comp			.				Fe A Clear	
1915 ✓	HD 13542 1			01 23	01 30	0 20 W			
1916 ✓	"			01 32	01 39	0 28 W			
1917 ✓	"			01 40 15	01 47 15				
1918 ✓	"			01 48 05	01 55 05	0 44 W			
1919 ✓	"			01 56	02 03	0 53 W			
1920 ✓	Comp								

Spectr. Temp. ..... Dome Temp./Hum. 12.0/48.5 Transparency Conditions Clear

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
13,000.				CCD Cass	1800/45.2	250μ	Hβ	24			
								24			
1000.		7.8						24	BV Dra.		
1150.								25			
1300								25 *			
1330.								26.			
1320								27.			
										15.1K ADU MAX	
1105								28			
1200	3"							29 c			
250								30			
1360								31			
1313								32			
								33			

183 #4

Date 1991 Apr 26/27 Observers Pdr./MKi

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO1921 ✓	Flat							Tung A=1/4	18s
1922 ✓	(H) Bias (4)								
1923 ✓	Dark - 7min								42m
1924 ✓	Comp								
1925 ✓	HD158148	17 22 30	+20 10	02 28 10	02 32 00				
1926 ✓	"	"	"	02 34 30	02 38 28				
1927 ✓	Comp.								
1928 ✓	Flat								
1929	(H) Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. 11.6/49.5 Transparency Conditions Clear 1.83

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/45.2	250μ	Hp	33a'		G = 4800	
								33		mean =	14.95
								33			σ = 14.23
								33			
6000		5						34		Telluric std	
6000		5									
											40.14
											σ = 14.69

All backed up to Perseus + WORM

185

Date: 1991 April 27/28 Observers: Mki/Pdr

Emulsion Batches: FANS "OFF"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FM000 322	HD 103095	11 47 13	38 26 10			"N" mod	4/80 sec	int	
cc 01930	(H) Bias (4)			23 36					
1931	Comp							FeA clear	120s
1932	Flat							Tung A=1/4	3s
1933	HD 135421	15 09 54	+62 13	23 46 00	23 55 00	1h 11m.			420.
1934	"			23 56 32	00 :03:32	1h 08m E.			"
1935	"			00 04 20	00 :11:20	0h 55m E.			"
1936	"			00: 12:03	00. 19:03	0h 48m E.			"
1937	"			00: 20:00	00:27:00	0h 38m E.			"
1938	Flat.							Tung. A=1/4	3
1939	Comp.							Fe A clear.	120.
1940	HD 135421			00: 37:45	00:44:45				420
1941	"			00 46:10	00:53:10				
1942	Comp								
1943	Dark 7min			00 58 .	.				
1944	(H) Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. 12.3/55.3 Transparency Conditions Hazy → cloudy 18.6

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 90 again

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V = 6.45	G8V	CCD Cass	1800 /	250μ	H_2 G=6020		Seeing test	Box 31×31	
										mean =	140.34 σ = 14.65
120°											
3^S											
400.	465							4		Quite hazy. Clouds.	
"	670							5		Less cloud.	
"	~400.							6		Clouds....	
"	~~350~~ 500.							7.*		Clouds. Large movements along slit..	
"	~700.							7		Less cloud.	
3											
120											
420	242							8.		Cloud!	
	144							9		Clouds	
								10			
	All in Pixels + mean							10		mean =	139.27 σ = 19.26

187

Date Apr. 28/29, 1991 Observers Hdy - Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cct0095.fts	BIAS 135.510 ADU	NO DELAY BETWEEN BIASES		21:46:25		0h	+43°5		
96	BIAS 135.661								
97	132.845			21:48:14					
98	133.089								
0099	133.016			21:49:14					
0100	133.129								
101	135.906			21:50:14					
102	136.007								
103	135.704			21:52:50					
104	135.896								
105	135.687			21:57:50					
106	135.805								
107	135.766			22:07:50					
108	135.955								
0109	135.750			22:17:50					
cct0110.fts	135.947								
111	135.646			22:32:50					
112	135.831								
113	BIAS 135.546			22:47:50					
114	BIAS 135.714								
~~115~~	~~5 BIAS + FLAT~~			~~23:00:20~~				~~TUNG 1/4~~	~~5μs~~
115	100 X (5μs FLAT − BIAS)	5 sec delays.		23:20:00				TUNG 1/4	5μs
116	FLATS			00:49:15	00:50:01			TUNG 1/4	6.0s
118									
119	FeA COMP			00:52:15				FeA CLEAR	100s
120	H BIAS (4)			00:56:45					
0121.fts	DARK			01:00:10	01:10:10				600s

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions OVERCAST..HAZY..... 188.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

508 0838 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					1800/	250μ	G=5505	1c; 2c;		T_{CCD} = -124.3°C 90 c gain	
								3c; 4c;		POT SET TO 5.00 AT 21:47:50	
								5 6		-103.4°C	
								7 8		-100.6°C	
								9 10		-102.0°C	
								11 12		-101.9°C	
								13 14		-102.0°C	
								15 16		-101.9°C	
								17 18		-101.9°C	
								19 20		-101.95°C	
								23c;		-102.0°C +12.35°C +55.3%	
								24 25 26		-101.9°C	
								27c;			
								1c;		-102.1°C	
								28c;			

189

Date 1991 April 30/May 1 Observers Srt / Par

Emulsion Batches:

FANS "ON"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
ce 02607	Bias (4)			18:24						
2608	dark 15m			18:25						
2609	"			18 40						
2610	"			18 55						
2611	bias (4)			19 33						
2612	bias (4)			19 36						
2613	Comp			20 52				ThAr	10^s	
2614	HD 109379	12 29 08	-22 50 37	20 52 28	21 24 15					574
2615	"	"	"	21 26 25	21 56 26					:27
2616	Comp							ThAr	10^s	
2617	HD 109379	"	"	21 58 56	22 28 56	00 11 W				4 M
2618	"			22 30 02	23 00 02					:17
2619	Comp.	"	"					ThAr	10^s	
2620	Comp							ThAr	10^s	
2621	HD 131156	14 46 46	19 30 57	23 20 36	23 50 36	00 44 E				1.7
2622	"	"	"	23 52 30	24 22 30	00 12 E				.72

Spectr. Temp. ..... Dome Temp./Hum. 15.1 / 45.0 Transparency Conditions Clear 190

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

0 0 256 1024 4 1 ccdfmt

90 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt (width / Height)	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	16.70	90μ 0.265	3934Å	600μ .205		x grating 0.4 10 mm	154.00 σ=5.86
										mean 156.61	σ=6.60
										2512 mm	=116.14 σ=.607
574									β Crv		
527		B= 3,54	G5 II								
410	4"	(airmass 2,58)									
317											
256	3"	(airmass 1,13)							ξ Boo		
272		B= 5.31	G8 V								

191 #2

Date 1991 Apr 30/May 1 Observers Sut / Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2623	Comp							ThAr	10^s
2624	HD131156	14 46 46	19 30 57	00 24 19	00:54:19				
2625	"			00 55 12	01 25 17	00 51 W			
2626	Comp			01 26				ThAr	10^s
2627	HD131156			01 27 44	01 57 43	1 24 W			
2628	"			01 59 08	02 29 14				
2629	Comp							ThAr	10^s
2630	Comp							ThAr	10^s
2631	HD185144	19 32 33	69 29 28	02 47 36	03 17 36	1 51 E			
2632	"	"	"	03 18 50	03 48 50	1 26 E			
2633	Comp							ThAr	10^s
2634	HD185144	"	"	03 51 45	04 21 45	0 54 E			
2635	Comp							ThAr	10^s
2636-41	Flats					00^h	+22°	Tung	120^s

Spectr. Ter
Focus....
Spectr. Ter

Exp. Mtr

230

227

163

132

463

419

Spectr. Temp. ..... Dome Temp./Hum. 12.9 / 54.5 Transparency Conditions Clear 192

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 12.5 / 57.1 Width ..... Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	16.70	90μ 0.265	3934 Å	600μ .205			
230									ξ Boo		
227											
163	3"										
132											
663		B = 5.47	K0V								
619											
673											
~~673~~											
										All in Person - WORM	

#1 193

Date 1991 MAY 3/4 Observers Hdy-Ri

Emulsion Batches:

FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
	~~Comp~~								
	~~HD~~			~~00 24 +9~~					
CC#1945	FLAT			20:26:30				TUNG A/B	12s
CC#1946	COMP			20:28:30				FEA CLEAR	120s
CC#1947	HD 87901	10:03:35	+12°27	20:33 30	90				
CC#1948	"			20:35 ~~40~~	57	00h56w	+12° 4'		
CC#1949	COMP			20:47:00				FEA CLEAR	120s
CC#1950	FLAT			20:50:00				TUNG A/B	12s
CC#1951	HD 135421	15 09.9	+62°13'	20:52:00	20:59:00				
CC#1952	"			59:30	20:06:30				
CC#1953	"			21:11:00	21:18:00				
CC#1954	"			21:18:30	21:25:30				
CC#1955	"			21:26:00	21:33:00				
CC#1956	FLAT			21:~~34~~:30				TUNG A/B	12s
CC#1957	COMP			21:39:00				FEA CLEAR	120s
CC#1958	HBias(4)			21:42:45					

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... 1.94..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

DEWAR TOPPED 20100
90 cgain
405 0 38 1024 f 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
ds				CASS-CCD	1200/6020	2"	Hα	c1			
ds								2ci			
~6000		1.36	B7V					3ci			
~6000		1.36	B7V					4ci			
ds								5ci			
ds								6ci		~~10000~~ 10785	
886								7ci			
888								8ci			
1044								9ci			
1013								10ci			
1062								11ci			
								12ci		15~~00~~05	
								13ci			
								1ci		mean = 12.63 σ = 15.75	

#2 195

Date 1991 MAY 3/4 Observers Hdy-Ri-MKi

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
CCΦ1959	HD135421	15 09.9	+62 13	21:44	21:51					1252
CCΦ1960	"	"	"	21:51:30	21:58:30					1359
CCΦ1961	"	"	"	21:59:00	22:07:00					1398
CCΦ1962	"	"	"	22:07:30	22:14:30					1365
CCΦ1963	"			22:15:00	22:22:00	2h 20E	+61° 57'			1348
CCΦ1964	COMP			22:23:00				Fe H CLEAR	120s	
CCΦ1965	FLAT			22:26:30				TUNG N 1/8	18s	
CCΦ1966	HD135421	15 9.9	+62°13	22:28:30	22:35:30				420	1359
CCΦ1967	"	"	"	22:36:00	22:43:00				"	1350
CCΦ1968	"			22:43:30	22:50:30				"	1357
CCΦ1969	"			22:51:15	22:58:15				"	1344
CCΦ1970	"			22:59:30	23:06:30				"	1352
CCΦ1971	FLAT								18	
CCΦ1972	FLAT							TUNG N 1/8	10	
CCΦ1973	COMP							Fe A clear	120	

Spectr. Temp. ..... Dome Temp./Hum. 5.8 .... 63% Transparency Conditions ..... .96..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1052				CASS CCD	1800/6020	250		14ci			
869								15ci			
1090								16ci			
965								17ci			
948								18ci			
								19ci		Saturated! -mci	
								20ci		~~1200~~ 1696	
968								21ci			
950								22ci			
937								23ci			
~940.								24ci			
~900.								25ci			
								26ci		This is saturated!	
								26ci		907	
								27ci			

#3 197

Emulsion Batches:

Date 1991 MAY 3/4 Observers Mdy-Ri-MKi

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC01974	HD135421	15 9.9	+62° 13'	23:26:10	23:33:10				420
CC01975	"			23:35:15	23:42:15	1:00 E			"
CC01976	"			23:43:00	23:50:00	0:53 E			"
CC01977	"			23:51:00	23:58:00				
CCØ1978	"			23:58:40	00:05:40				620
CCØ1979	COMP			00:11:30				Fe A / CLEAR	120s
CCØ1980	FLAT			00:09 00				TUNG / A-B	10s
CCØ1981	HD135421	15 9.9	+620 13'	00:14	00:21				634
CCØ1982	"	"	"	00:21:30	00:28:30				615
CCØ1983	"	"	"	00:29:00	00:36:00				655
CCØ1984	"	"	"	00:36:30	00:43:30				715
CCØ1985	"	"	"	00:44:00	00:51	8H07W	+61°57		735
CCØ1986	COMP			00:51:45				Fe A / CLEAR	120s
CCØ1987	FLAT			00:54:20				TUNG / A-B	14s
CCØ1988	HD135421	15 9.9	+62° 13'	00.56:00	01:03				813
CC01989		"	"	01:03:30	01:10:30				851

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... 1.98.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~940.				CASS CCD	1800 / 6020	250u		28ci		Movement along slit... Lucky gen = 12200	
~900								29ci		Bad cosmic rays (including a fat one)	
~880.								30ci			
~~760~~								31ci			
620								~~32~~ci			
								33ci			
								34ci		10427	
634								35ci			
610								36ci			
655								37ci			
734								38ci			
750								39ci			
								40ci			
								41ci		12243	
813								42ci			
755								43ci			

#4 199

Date 1991 MAY 3/4 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC0199Ø	HD 135421	159.9	+62Ø 13	01:11:00	01:18:00				
CC0199Ø1	"	"	"	01:18:30	01:25:30				
CC0199Ø2	"	"	"	01:26:00	01:33:00	00H50W	61°58'		
CC0199Ø3	FLAT			01:34:00				TUNG / A+B	15s
CC0199Ø4	COMP			01:35:00				Fe A / CLEAR	120s
CC0199Ø5	HD135421	15 9.9	+62° 13'	01:38:00	01:45:00				
CC0199Ø6	"	"	"	01:45:30	01:52:30				
CC0199Ø7	"	"	"	01:53:00	02:00				
CC0199Ø8	"	"	"	02:00:30	02:07:30				
CC0199Ø9	"	"	"	02:08:00	02:15:00	01H33W	+61°58'		
CC0200Ø	COMP			02:16:00				Fe A / CLEAR	120s
CC0200Ø1	FLAT			02:18:45				TUNG / A+B	15s
CC0200Ø2	HD 135421	15 9.5	+62° 13'	02:20:00	02:27:00				
CC0200Ø3	"	"	"	02:27:30	02:34:30				
CC0200Ø4	"	"	"	02:35:00	02:42:00				
CC0200Ø5	"	"	"	02:42:30	02:49:30				

Spectr. Temp. ..... Dome Temp./Hum 75.3 69.3% Transparency Conditions 200

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
762				CASS CCD	1800/6020	250μ		44ci			
693								45ci			
719								46ci			
								47ci		12895	
								48ci			
711								49ci			
667								50ci			
793								51ci			
960								52ci			
1107								53ci			
								54ci			
								55ci		12923	
950								56ci			
1156								57ci			
147								58ci			
164								59ci			

#5 201

Date 1991 MAY 3-4 Observers Hdy-Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Fig Mtr.
CCD2006	HD 135421	15 9.9	+62° 13'	02:50:00	02:57:00	2H15W	+61°58			
CCD2007	FLAT			02:58:00				TUNG A/B	15s	
CCD2008	COMP			02:59:00				FeA CLEAR	120s	
CCD2009	HD135421	15 9.9	+62° 13'	03:02:00	03:09:00					
CCD2010	"	"	"	03:09:30	03:16:30					
CCD2011	"	"	"	03:17:00	03:24:00					
CCD2012	"	"	"	03:24:30	03:31:30					
CCD2013	"	"	"	03:32:00	03:39:00					
CCD2014	COMP			03:39:45				FeA CLEAR	120s	
CCD2015	FLAT			03:42:45				TUNG A/B	15s	
CCD2016	HD135421			03:44:00	03:51:00					
CCD2017	"	"	"	03:51:30	03:58:30	03H16W	+61°58			
CCD2018	FLAT			03:59:45				TUNG A/B	15s	
CCD2019	COMP			04:00:40				FeA CLEAR	120s	
CCD2020	COMP			04:02:45				FeA CLEAR	120s	
CCD2021	FLAT			04:10:30				TUNG A/B	15s	

Spectr. Temp. ..... Dome Temp./Hum. 4.5 70% Transparency Conditions ..... 2.0.2.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

505 0 38 1024 41

90 c gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1096				CASS CCD	1800/6020	250		60ci			
						"		61ci		12686	
						"		62ci			
1093				"	"	"		1ci			
990								2ci			
974								3ci			
10:23								4ci			
980								5ci			
								6ci			
								7ci		12353	
900								8ci			
903								9ci			
								10ci		12333	
								11ci			
								12ci			
								13ci		12516	

#6 203

Date 1991 MAY 3-4 Observers Hdy - Ri

Emulsion Batches:

FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 02022	HD 158,148	17 22.5	+20°10'	04:12:30	04:24:52				
CC 02023	"	"	"	04:27:00	04:39:00	1h 42 W	+20°08		
CC 02024	FLAT			04:40				TUNG / AB	15s
CC 02025	COMP			04:41				FeH / CLEAR	120s
CC 02026	HBIas (4)			04:45					
CC 02027	DARK			04:~~52~~	05:07				

Spectr. Temp. ..... Dome Temp./Hum. 3.1 ... 75% Transparency Conditions ... Good ... 204

Focus .....

Spectr. Temp. 92 - 100 ..... Dome Temp./Hum. 2.7 ... 76.7% 90cgain

CCDFMT = 505 038 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20000		5.39	B6V		1200 / 6020	250u		14ci			
24208								15ci			
								16ci		1244	
								17ci			
								Fe 18ci		mean = 144.23 σ = 15.7%	
								18ci			

205

Date 1991 May 4-5 Observers [Hdy] Ri

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02028	HBIAS(4)			00:39					
CC02029	COMP			00:43				FeA/CLEAR	120s
CC02030	FLAT			00:46				TUNG/A&B	16s
CC02031	HD 158148	17 22.5	+20° 10	00:53	01:08:30				
CC02032	HD 158148			01:10:30	01:26:13				
CC02033	FLAT			01:37:40				TUNG/A&B	16s
CC02034	COMP			01:39.00				FeA/CLEAR	120s
CC02035	HD 135421	15 09:09	+62°13	01:43:00	01:50:10				
CC02036	"	"	"	01:50:30	01:57:30				
CC02037	"	"	"	01:58:00	02:05:00				
CC02038	"	"	"	02:05:30	02:12:30	01 34W	+61°57		
CC02039	COMP			02:15:00				FeA/CLEAR	120s
CC02040	FLAT			02:18:40				TUNG/A&B	15s
CC02041	7MIN DARK			02:21:30	02:28.30				
CC02042	HD 135421			02:41:00	02:48:00				
CC02043	"			02:48:30	02:55:30				

Spectr. Temp. ..... Dome Temp./Hum. 7.3°C 69.3% Transparency Conditions Some clouds >06

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

90cgan
585 0 38 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/6020	250μ	T=-100C	1ci		DEWTR TOPPED mean=132.67 19:11 σ=15.48	
								~~0~~ci			
~~30000~~								2ci		13527	
		539	861					3ci		9871	
				"	"	"		4ci			
								5ci		14023	
								6ci			
1238								7ci			
1364								8ci			
1513								9ci			
1150								10ci		CLOUDS	
								11ci			
								12ci		13093	
								13ci			
1117								Aci			
1195								15ci			

#2 207

Date 1991 MAY 4-5 Observers [Hdy] Ri

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02044	HD135421	15 09 09	+62° 13'	02:56:00	03:03:00				
CC02045	"			03:03:30	03:10:30				
CC02046	"			03:11:00	03:18:00	2h40w	+61° 57'		
CC02047	FLAT			03:18:45				TUNG/A½	16s
CC02048	COMP			03:20:00				FeA/CLEAR	120s
CC02049	HD135421	15 09 9	+620 13'	03 23:30	03:30:30				
CC02050	"	"	"	03:31:00	03:38:00				
CC02051	"	"	"	03:38:30	03:45:30				
CC02052	"	"	"	03:46:00	03:53:00				
CC02053	"	"	"	03:53:30	04:00:30	3h23w	+61°57		
CC02054	COMP			04:01:20				FeA/CLEAR	120s
CC02055	FLAT			04:04:20				TUNG/A½	16s
CC02056	HD135421	15 09 09	+62° 13'	04:06:00	04:13:00				
CC02057	"	"	"	04:13:30	04:20:30				
CC02058	"	"	"	04:21:10	04:28:00	3h49w	+61°57		

Spectr. Temp. ..... Dome Temp./Hum. 6.2°C ..... 72.7% Transparency Conditions 208

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1255				CASS CCD	1800/6020	250u		16ci			
1250								17ci			
930								18ci		clouds	
								19ci		13839	
								20ci			
1165								21ci			
1200								22ci			
1170								23ci			
1260								24ci			
1307				"	"	"	"	25ci			
								26ci			
								27ci		13650	
1210								28ci			
1310								29ci			
1479								30ci			

#3 209

Date 1991 MAY 4 – 5 Observers [Hdy] Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCØ2059	FLAT			04:29:00					
CCØ2060	COMP			04:30:15					
CCØ2061	HBIAS(4)			04:33:00					

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 2/0

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 6.0°C ... 71.9%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CAT CCD	1800 / 6020	250μ		31 gi		13650	
								32 gi			
								~~33~~ iki		mean = 130.68 σ = 15.27	

211

Emulsion Batches:

Date 1991 May 7/8 Observers Mki/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT00833	Flat							Tung ND2.0 A=1/4	7200
834	V1054 Oph	16 55 08	-09 27 54	02 ~~12~~ 00	02 20 30				
835	SKY								
836	Comp							FeA A=1/4	200s
837	Comp							FeNe A=1/4	200s
838	HD 163075	17 49 15	46 40 10		03 02 15				
839	HD 128718	14 33 24	48 39 00	3 17 16	03 36 40				
840	Comp			3 ~~4~~ 40				FeA A=1/4	200s

Spectr. Temp
Focus
Spectr. Temp

Exp. Mtr. | S

A=1350
C=20

A=120
B=5

A=170
B=10

A=240
B 20

Spectr. Temp. ..... Dome Temp./Hum. 6.3/63.8. Transparency Conditions ... Cloudy ... 212

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A=1350 B=20				PCS fiber fed	600/30.5		4286 Å				
A=120 B=5											
A=170 B=10											
		V= 6.46	KOTII						seeing test *	through Clouds	
A=1200 B=20		6.7	F2						" "		

213

Date 1991 May 8/9 Observers Mki/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT00841	Tungsten							ND=2.0 A=1/4	7200
842	Comp							Fe A A=1/4	200
843	AD Leo	10 16 54	+20 07 19	22:15:42	23 15 42	3 45 W			
844	"			23 55 10	00 09 00	4 38 W			
845	Comp							Fe A A=1/4	200
846	Tungsten							ND=2.0 A=1/4	
	1991 May 9/10 Tue/Pdr								
FIT00847	Tungsten							ND=2.0 A=1/4	7200

Spectr. Temp. ..... Dome Temp./Hum. 10.1 / 62.2 Transparency Conditions Cloudy, Clearbreaks.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

214

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V= 9.43	M4Ie		600 / 30.5		4286Å				
B~110		↓	↓								
										Clouds. 22:35;—	
										Telescope in reverse mode (E side of pier)	
B~80											

215 Fri-SAT

Date 1991 May 10/11 Observers Pdr/Tm [r.G]

Emulsion Batches: FANS ON (Even, on Odd day off)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT00848	Tungsten			19:30	20:26			Tung ND2.0	3400
849	Comp			20:32			A=1/2	A=1/2 FeA	200
FM000323 .Pdr	HD98839	11 17.7	+44 02	20:38		=0010W	+4332	"N" mode	
850	HD 98839	11 17.2	+44 02	20:52		232 W		ND0.6	
851	"			21:57	22:57				
852	Comp			22:58					
Fm000324.Tm	HD125351	14 13.8	+35 58	23 08		C013 E		"N" mode	
FIT00853	"	"	"	23 23	00 23	0102 W		ND=0.6	
FIT00854	"	"	"	00 2610	01 26 00	026 W		ND0.6	
855	Comp						F18 stopin no filter	FeA A=1/2	200s
856	HD129972	14 40.3	+17 23	01 34	02 34	02 46 W		ND 0.6	
857	"	"	"	02 36 35	03 36 00	03 49 W		ND0.6	
858	Comp							FeA	200s
859	HD 131156	14 46.8	+19 31	03 42 30	04 05 35	04 12W		ND0.6	
860	Tungsten			11:40				ND 0.6	7200

Spectr. Temp. ..... Dome Temp./Hum. 15.0/45.5 Transparency Conditions Clear - hazy ...≥1.6.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

no wind noticed. Funson by 1945

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Red Collimator	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
B=1700				PCS ie PTS	1800/47.2	BS	4300 Å				
A=5 B=140											
Int x 4 (~~45~~ 1/15 sec) A B		B= 6.00	G8II6		Fiber Head Dome pointing			W	Seeing Test	31x31 pix (4 frames) Dome Catwalk DOOR open	
50 1900		"	"						rG pgm		
		"	"								
					Dome painted SVK					31.31 pixel (4 frames) No wind	
Int x 4		B 5.85	K0III	PTS	1800/47.2	Fiber Head ~~BS~~	~~4300 Å~~		~~rG pgm~~	(Catwalk door closed for this)	
50 1600	* <2"	"	"	"	"	BS	4300Å		rG pgm	* image slit defocused to reduce signal	
50 1800	<2"	"	"			BS	"			thin cloud now (Image in focus now)	
180											
45 1800		B 5.58	G8.5III			BS				slit defocussed to reduce signal	
50 1700	<1.5"	B 5.30	G8V			BS	4300 Å		rG pgm	Δ sep 7.1" Close pair well separated	
1700										Next flat pair	

217 2 Sat Night Tours Looked at Jupiter

SAT SUN

Date 1991 MAY 11/12 Observers P.d.r.-T.n.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT0086I.fts	HD115735	13 14.0	+50 12 29	23 00 25	23 46 25	01 28 W		ND 0.3	
862	Comp						Fe A no ND	F.18 IN clear	200s
863	HD115735	13 14.0	+50 12 29	23 54 35	00 35 10	02 17 W		no filter	
864	HD115735	"	"	00 42	01 28	03 10 W	~~No ND~~	no filter	
865	Comp								200s
866	HD133962	15 02 07	+48 32	01:36	02:36:04	02 32 W		ND 0.3	
867	"	"	"	02 36 45	03:36:45	03 33 W		ND 0.3	
868	Comp							Fe A clear	200s
Fm000 325.fts	HD171232	18 28.5	+12 52.5	03 46		00 15 W		4 frames	
869	Flat on Timer			04 07			ND=2.0	Tung A=1/2	7200

Spectr. Temp. ..... Dome Temp./Hum. +19°C 56% Transparency Conditions .. P.C.R.T. cloudy after Tour 218

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +17°C 78% Fans not on tonight

Exp. Mtr. A / B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
/ 50-1800	<2"	5.08	B9.5IIIp	Red Col PCS	1800/464	BS	4100Å		rG pgm	cloud at times stopped due to clouds	
5 / 160					"	"	"				
35 / 50-1500	3"-4"	5.08	B9.5IIIp							seeing going. In sat of cloud & haze	
35 / 500-1800	2"-6" ~~4"-6"~~	"	"							cloud & Haze more uniform	
45 / 1700	<2"	5.57	A0Va						rG pgm	hazy no cloud	
40 / 1600	<2"										
N mode		7.73	G8III			Fiber Head			Seeing Test	Prime SW Light W wind	
50 / 1400				PCS	1800/464	BS	4100Å				

pg#1 29 Sun - mon

Emulsion Batches: .....

Date 1991 MAY 12/13 Observers S.t./Tn ....

Echelle Focus changed From 250 → 270 at start

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2642	BIAS (4)			18 17					
2643	DARK 15 min			18 22					
2644	BIAS (4)			18 39					
2645	DARK 15 min			18 44					
2646	DARK 15 min			19 08					
2647	Comp			20 57				ThA	10s
2648	HD 109379	12 29 08	-22 50 37	20 59 56	21 30	00 00			
2649	Comp							ThA	10s
2650	HD 109379	"	"	21 38 19	22 08 19	00 38W			
2651	Comp							ThA	10s
2652	Comp							ThA	10s
2653	HD 113226	12 57 12	+11 29 48	22 15 05	22 41 11	00 44W			
2654	Comp								10s
2655	HD 113226	12 57 12	+11 29 48	22 42 58	23 02 58	01 06W			
2656	Comp								10s
2657	~~HD 113226~~	~~12 57 12~~	~~+11 29 48~~						

Spectr. Temp. 20:1 Dome T. Dome Temp./Hum. 45% H 20°C Transparency Conditions ... 51 hazy ... >20

Focus ... .270 ... echelle set pgm 90 C GAIN 1000 TSCALE CCDT = -100°C

Spectr. Temp. ... Dome Temp./Hum. ... Dome open & FANS on early

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit Width	~~Emulsion~~ CONTRAL	P.H. Height	Program	Remarks	Quality
				CCD Echelle	Echelle 16.70	90µ .265	3934Å	600µ .205	.	CCD FORMAT 0 0 256 1024 4 1 X grating 0.400 1200l/mm grating	
										2642 mean =	165.68 σ = 5.59
										2644 mean	164.29 σ = 5.32
										1st stellar exp aborted. (Too slow)	
559	≈5"	B 3.54	G5II						Sit pgm		
		B 3.54	G5II							≈ 700 ADU above background FOR 7 Cols @ 3900Å	
1375	3"	B 3.77	G8III							7K ADU above background @ ≈ 4000Å cont	
889	2"	B 3.77	G8III								

pg #2 22/ sun mon

Date 1991 MAY 12/13 Observers Sr.t. - Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CEO2657	HD131156	14 46 46	+19 30 57	23 09 31	23 39 31	00 07 E			
2658	Comp							ThA	10s
2659	HD131156	14 46 46	+19 30 57	23 45 05	00 15 05	00 28 W			
2660	Comp							ThA	10s
2661	HD131156	14 46 46	+19 30 57	00 16 51	00 46 51	01 00 W			
2662	Comp							ThA	10s
Fm000326.Tn	HD144579	16 01 30	+39 25 36	≈00 50		≈0000 ~~01 00 W~~	31×31 pixels	4 frames	0×JNJ
Fm000327.Tn	"	"	"	≈00 57		≈00 00	"	4 frames	4×Int
2663	Comp							ThA	10s
2664	HD 185144	19 32 33	+69 29 28	01 15 03	01 45 03	2 43 E			
2665	HD 185144	"	"	01 45 58	02 15 58	2 12 E			
2666	Comp							ThA	10s
2667	HD 185144	19 32 33	+69 29 28	02 18 43	02 48 43	1 39 E			
2668	HD 185144	"	"	02 50 40	03 20 40	1 07 E			
2669	Comp							ThA	10s

Spectr. Temp. ..... Dome Temp./Hum. +17.5°c 50% Transparency Conditions ...O.K.....222...

Focus ..... pg#2

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
269	2"	5.30	G8V							CCD T = -101.6°c	
										* Yes; 60g sht ≈ 6"	
325	* <2"							2 ci	Srt pgm	* Based on d61 sep fnt comp. sep = 7.1"	
									Note, Same Stars done MAY 10/11 on PES		
280	2-3"										
'N' mode		V 6.66	G8V	Dome WSW		90u	Height = 600u		Seeing Test on	Echelle slit head	
"N" mode		"	"	Dome WSW					"	No wind at all	
798		B 5.47	K0V						Srt pgm		
797									"		
										CCD T = -101.5°c	
836	2-3"										
794	2"										

pg #3 227

Date 1991 MAY 12/13 Observers S.t - T.n

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02670	BIAS (X4)								
1	Flat								
2	"								
3	"								
4	"								
75	"								
76	"								
2									
3									
4									
5									
6									

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mtr

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... 2.74 .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										mean = 15250 CCD T = -101.6°C	σ = 5.78
						AN FTP to Perseus only					

Pg#1 2nd Mon TUES

Date 1991 MAY 13/14 Observers S.r.t. - T.n

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02677	Bias (4)								
2678	DARK 15min;	2 ce02679 DARK (15min)							
2680	BIAS (4)								
2681	DARK 15min								
ce02682-87	FLATS					00 00	+10°	Tung	90s
ce02688	Comp							Th A	10s
2689	HD77912	09 00 10	+38 51 07	20 22 05	20 52 05	02 54 W			
2690	Comp			~~53~~				Th A	10s
2691	HD 77912	09 00 10	+38 51 07	20 53 30	21 13 43	03 16 W			
2692	Comp							Th A	10s
2693	BIAS (x4)			21 27					
Fm0003 28.Tn	HD108100	12 20.1	+43 25	21 44	4 Frames	00 27 W	1/15 sec	Int x 4	
Fm0003 29.Tn	HD 120245	13 43 11	+38 23 33	22 03	4 Frames	00 37 E	"	" "	
2694	Comp			22 18 12				Th A	10s
2695	HD 124897	14 11 06	+19 42 11	22 18 12	22 28 23	00 39 E			

Spectr. Temp. ..... Dome Temp./Hum. +20°C 60% Transparency Conditions ... Hazy ... part. cloudy ....

Focus ..... 270 ..... pgm 1 Rapid clouding in >26

Spectr. Temp. ..... Dome Temp./Hum. ..... No Fans Tonight

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H. Height	Program	Remarks	Quality
				CCD Echelle	Echelle 16·70	90u .265	3934Å		x grating	CCD FmT 0 0 256 1024 1200 l/mm 0.4100	A 1 mean = 164.68 σ = 5.72
											mean = 163.99 σ = 5.79
90s								1000u .165			
10s								600u .205			
331	2"	5·6	G7I-II						Srt pgm		
1s											
127	2"	5·6	G7I-II						Srt pgm	CUT short by cloud	
10s											
"n" mode 31 x 31 pixels		V 7·14	F2	[no wind Dome West]	Echelle	EEV CAMERA Slit Head		set to 0.0100	Seeing Test	mean: CCD T = −101·6 medium cloud: Long Slit set	161.66 σ = 5.91
"n" MODE "		V 6·95	K0III	no wind DOME SW	"	"	"	"	"	" Uniform haze/cloud	
13s				CCD Echelle	16·70	90u	3934Å	600u .205			
4418	<2"	1.19	K2III						2 B00 Srt std	2 mag glob cloud	

#2

Emulsion Batches: .....

Date 1991 MAY 13/14 Observers S.t. T.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ceo2696	HD124897	14 11 06	+19 42 11	22 31 08	22 41 08	00 26 E			
2697	Comp							ThA	10s
2698	HD124897	14 11 06	+19 42 11	22 44 23	22 54 23	00 13 E			
2699	Comp							ThA	10s

Spectr. Tem
Focus.....
Spectr. Tem

Exp Mtr
4408
5625

Spectr. Temp. ..... Dome Temp./Hum. +19.5°C..64% Transparency Conditions ...Thin..cloud.....

228

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

~~* Goat~~

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt Echelle	Slit	~~Emulsion~~ λ	P.H.	Program 1200 l/mm	Remarks	Quality
4408	<2"	1.19	K2 III	CCD Echelle	16.70	90u	3934Å		Tilt x grating = .4100		
5625	<2"	1.19	K2 III						srt Std		

229 pg #1

Date 1991 MAY 14/15 Observers Fds./Lin/Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2700	BIAS (4)			17 52 15					
2701	DARK 15m								
2702	DARK 5m								
2703	DARK 15m								
2704	BIAS (4)								
2705	BIAS (4)			19:10:00					
2706-2715	10 × flat @ 15s	0 hr	-20°	19:13:10	slit height = .185 = 850μm				
2716-2725	10 × flat @ 15s	0 HR	+35 Amp°	19:53:10	"	"	"		
2726	BIAS								
2727	COMP			20 17 05					
2728	HD124897	14 11 06	+19 42 11	20 23 20	20 26 27				
2729	COMP							ThA	20s
FM 000 330	HD 108100	13 20 06	+43 25	21 00	1 frames	00 17E		N mode	4x int
2730	COMP			21 03 00					
2731	HD 120315 num	13 43 03	+49 48 45	21 06 00	21 10 58	01 25E			
2732	COMP							ThA	20s

Spectr. Temp. ..... Dome Temp./Hum. 4.1°C 69% Transparency Conditions Part Cloudy 2.30

Focus ... 2.70 ..... pg #1 FHNS ON & Dome open @ 17 EST - 90 CGHm

Spectr. Temp. ..... Dome Temp./Hum. ..... 600 l/mm Slit Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ × Slit	P.H.	Program	Remarks	Quality
				CCD/ echelle	18.75	.265 = 90μm	.4555 λ center = 4481 Å			mean =	165.02 σ = 5.59
											163.50 σ = 5.73
											162.17 σ = 5.82
										telescope moved ~2° declination 27 A	
											161.99 σ = 5.64
							~~800~~	~~550~~			
7000		B 1.19	KOIII				600	600	stellar		
								600 .205			
31 × 31 pixels	2"	V 1.14	F7			on Echelle slit head →		600 .205	EEV camera Seeing Test	Dome SW No Wind	6.7 pixel
4000									fds - pyn		

pg #2 231

Date ..1.9.91. MAY 14/15 Observers ..Eds.-T.-.....

Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02733	Comp							THA	20s
2734	HD144470	16 00 57	-20 23 54	21 26 22	22 26 22	2 27E			
2735	Comp			22 27 10				THA	20s
2736	HD 144470	16 00 57	-20 23 54	22 28 00	23 28 00				
2737	Comp			23 28 45				THA	20s
2738	HD 144470	16 00 57	-20 23 54	23 29 45	00 29 45	00 24E			
2739	Comp							THA	20s
2740	HD 144470	16 00 57	-20 23 54	00 32 20	01 32 20	00 38 W			
2741	Comp			01 32 57				THA	20s
2742	HD 144470	16 00 57	-20 23 54	01 33 38	02 14 05	1 20 W			
2743	Comp				02 14 33				
2744	Comp BIAS(4)				02 19 02				
2745	Comp				02 21 30			THA	20s
2746	HD 193237 RZ-19.	20 14 06	+38 43 19	02 23 10	03 03 10	0 20 2E			
2747	Comp			03 04 20				THA	20s
2748	Comp			03 08 21				THA	20s

Spectr. Temp. ..... Dome Temp./Hum. 17.6°C 72% Transparency Conditions ... Fine ... 3.2

Focus ..... #2

Spectr. Temp. ..... Dome Temp./Hum. .....

600 l/mm

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion X grating	P.H.	Program	Remarks	Quality
		✓		CCD Echelle	Echelle 18.65	90μ .265	.4555				
891	POOR	3.96	B1V						Fds-pgm		
		✓									
1184		3.96	B1V								
1504		3.96	B1V								
2136	5"	3.96	B1V							some cloud by 01 EST after all (NW of pair done)	
									no problem →	should have been NW of pair. ~~Only slightly doubtful band on next right and memory to 2nd X16~~	
1400	5"	3.96	B1V						mean = 153.25 σ = 5.92		
1450	3"	4.89	B1							CCDT = -102.0°C	

#3 233

Emulsion Batches: .....

Date . 1991 MAY 14/15 Observers . Fds-Tn ....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
ceo2749	HD161096	17 38·5	+04 37	031016	032116	00 51 W				6516
2750	Comp			032217				ThA	20s	
2751	BIAS (4)			032604						
2752-2756	5×flat @ -20°C OHA			Slit @ .185 t=17s						
2757-2761	5×flat @ +40°C OHA			Slit @ .185 t=17s						
2762	BIAS (4)									
2763	BIAS (4)									
2764	~~BIAS (4)~~ DARK 15m									
2765	DARK 15m									
2766	DARK 15m									

Spectr. Tem
Focus .....
Spectr. Tem

Spectr. Temp. ..... Dome Temp./Hum. +12°C 66% Transparency Conditions ..Sl. hazy..... z3.4...

Focus .....270.....

Spectr. Temp. ..... Dome Temp./Hum. +11.5°C 67%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
2516	3"	3.93	K2III	CCD Echelle	18.65	90μ .265	4481?		, 4555 xg grating Tilt		
										mean =	151.76 σ = 6.00
										CCDT = -102.0°C	
										mean =	151.30 σ = 5.99
											151.58 σ = 5.95

245 pg 81 Wed-Thurs

Date 1991 MAY 15/16 Observers Fds-Tn. [Ecc.]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02867.fts	BIAS (4)			18 10 28					
2868	BIAS (4)			18 13 45					
ce02769-2771	DARKS (15m) x3								
2772	BIAS (4)			1907					
ce02773-02782	Flats (x10)					00 00	−20°	JUNG	7.5s
ce 2783 - ce02792	Flats (x10)					00 00	+35	JUNG	7.5s
2793	BIAS (4)			19 55 48					
2794	Comp							ThA	20s
2795	HD 124897	14 11 06	19 42 11	20 16 20	20 17 13		ce02794 ce02796	ThAr	20/2c
2798	MD 83754	09 35 31	−13 52 43	20 25 20	21 00 26	02 20 W	ce02797 ce02799	ThAr	20/2c
ce02801	HD 120315	13 43 03	+49 48 45	21 08 30	21 11 32	01 20 E	ce02800 ce02802	ThAr	20/20
ce02804	HD 144470	16 00 57	−20 23 54	21 24 28	22 24 28	02 26 E	ce02803 ce02805	ThAr	20/2c
2806	HD 144470	16 00 57	−20 23 54	22 28 07	23 04 53	01 46 E	ce02805 ce02807	ThAr	20/2c
2808	BIAS (4)								
2809	HD 144470	16 00 57	−20 23 54	03 11 20	00 00 20	00 50 E	ce02807 ce02810	ThAr	20/20

Spectr. Temp. ..... Dome Temp./Hum. ~~5~~ 20°C ~~70~~ 55% Transparency Conditions ... 51 hazy ... 2½6

Focus ... 270 ... pg #2

Spectr. Temp. ..... Dome Temp./Hum. +19.5°C 51.5% 0 0 256 1024 41 CCDFMT

slit 90 Cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	18.65	90u .265	4481 Å	60u .205		.4555 600 l/mm mean x grating tilt	= 162.51 σ = 5.77
											162.85 σ = 5.76
											164.50 σ = 5.67
											162.42 σ = 5.94
6000		1.19	KOII						std vel	CCD T = −101.8°C	
930		5.06	B5V						Fe's - pgm		
6000	3"	1.86	B3V								
1690	5"	3.96	B1V							N W of pair	
2000		"	"								
											159.44 σ = 5.30
2000	3"	"	"							part cloudy	

pg#2 237

Date 1991 MAY 15/16 Observers F.E.-T.S.

Emulsion Batches:

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.....Comps.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02811.As	HD144470	16 00 57	-20 23 54	00 09 00	00 39 25	00 11 E	ce02810 ce02812	TkA	20s/20s
2813	BIAS(4)								
2814	DARK 15m								
2816	HD144470	16 00 57	-20 23 54	01 09 00	01 34 23	00 44 W	ce02815 ce02817	TkA	20s/20s
2818	"	"	"	01 35 30	02 03 43	01 15 W	ce02817 ce02819	TkA	20s/20s
2820	HD193237	20 14 06	+37 43 19	02 10 22	02 52 20	02 09 E	ce02820 ce02822	TkA	20/20
2824	HD190993	20 02 36	+23 19 34	02 56 50	03 23 53	01 26 E	2823 2825	TkA	20/20
2826	"	"	"	03 25 20	03 57	00 53 E	2825 2827	TkA	20/20
FM.000331.Tn	HD176844	18 57 03	+40 32 36	04 08		00 15 W		'N' mode	Int x4
2828	BIAS(4)			04 01 20					
2829	BIAS(4)			04 03 40					
2830	BIAS(4)								
2831	DARK 15m								
2832	DARK 15m								
2833	DARK 15m								

Spectr. Temp. ..... Dome Temp./Hum. 18°C 59% Transparency Conditions . PART Cloudy 2/8

Focus .....270..... pg #2

Spectr. Temp. ..... Dome Temp./Hum. 15.8°C 62% Echelle slit H FAFs not on Tonight

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
870	3"	V 3.96	B1V	CCD Echelle	18.65	90u .265	4481B	600g .205	Fds pgm	Increasing cloud mean=158.54 σ=5.49	
2000	4"								Fds pgm	Clearing slightly CCD T=-99.6°C -100.8 5 minutes	
2000	3"								"		
2000	3-4"	V 4.89	B1						Fds pgm	CCD T=-99.7 @ 01:35	
2000	2"	V 5.07	B3V						" 17 Vul		
2000	<2"	"	"							CCD T=-101.6°C no wind at all	
31x31 pixels	<2"	V 6.65	M2 III		EEV camera Echelle Head	90u .165		600g	Seeing Test	Dome Facing West mean=156.94 σ=5.83	4.6 pixel
										CCD T=-101.9 mean=156.89 σ=5.52 156.33 σ=5.38	

#1 Sat/Sun

229 Date 1991 May 18/19 Observers Tty/Pdw

Emulsion Batches:

FANS are ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CE 02834	Bias (4)			20:30						
2835	Comp			21:20				ThA	20s	
2836	HD99028	11 18 42	11 05	21:32	22:12	2 16 W				3720
2837	Comp							ThA	20s	
2838	Comp							"	20s	
2839	HD102870	11 ~~45 30~~ ~~50 00~~ 02 20 ~~01 48 45~~		22 27 45	22 57 45	2 36 W				4525
2840	Comp							ThA	20s	
2841–2844	Flats x4					2 37 W	1 53	Tung	20s	
2845	Bias (4)									
FM000332 pair	HD128718	14 33.4	+48 39			~1 00 W		IN mode	Int x½	
2846	Comp			00 02		~~0 51 W~~		ThA	20s	
2847	HD137909	15 23 42	29 27 00	00 08 13	00 48 13	0 49 W ~~0 48~~				5107
2848	Comp									
2849 2852	Flats x4					0 51 W	29 11			
2853	Comp							ThA	20s	

Spectr. Temp. ..... Dome Temp./Hum. 9.4/51.0 Transparency Conditions Mainly Clear 240
(few cirrus)

Focus .....270.....

Spectr. Temp. ..... Dome Temp./Hum. ..... 30 cgain

width , Height 0 0 256 1024 4 1 FORMAT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	x grating Emulsion Region	P.H.	Program	Remarks	Quality
				CCD echelle	18.75	90μ .265	.4580 4484Å (5th order daon)	600μ .205		600 ln/mm x grating mean = 179.75 σ = 4.54	
3720	~~4134~~	4.34 ~~4.24~~ V	F2 IV								
4525	3"	V=3.6	F9 V						β Vir	RV std	
								800μ .185		~10000 MAX ADU mean = 176.55 σ = 9.65	
31x31 pix		V= 6.7	F2	Forgot to write observer + object name				600μ .205	EEV Camera Echelle head	no grind, some cirrus Dome facing W 6.4 pixel	
5107		B= 3.93	F0 p						β CrB	some cirrus	
								800μ .185		~6800 MAX ADU	
								600μ .205			

24 #2 Sat/Sun

Date 1991 May 18/19 Observers Tty/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
Ce02854	HD159561	17 30 18	+12 38	01 10 30	01 30 30	0 36 E			
Ce02855	Cmp							thA	20s
2856	Cmp								
2857	HD161096	17 38.5	+ 4 37	01 54 45	02 24 45	0 10 W			
2858	Comp							thA	20s
2859 2862	Flats x 4					0 22 W	+4 38	Twilight	30s
2863	Comp							Tr Ap	20's
2864	HD182640	19 20 30	+02 55	02 57 00	03 47	0 16 E			
2865	Comp							Tr Ap	20s
2866	Bias(4)			347					
2867	Dark 15m								900s

Spectr. Temp. ..... Dome Temp./Hum. 7.7 / 54.8 Transparency Conditions Few cirrus .42

Focus ....27P.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion (xgrat Region)	P.H.	Program	Remarks	Quality
7200		B = 2.2	A5 III	CCD Echelle	18.75	90μ .265	.4580 4484 Å	600μ .205	α Oph		
4946		B = 3.93	K2 III						β Oph	RV std	
								800μ .185		↑	
										11 500 MAX ADU	
3283	4"	B = 3.68	F0 IV						δ Aql	Desqview hang up	
										mean = 174.2 σ = 4.80	

243 Sun/Mon KK

Date 1.29.1 May 19/20 Observers Tty/Pdr

Emulsion Batches: FANS are OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CeF0102	Hartmann~ IN							ThA	60s
103	-out								
104								ThA	60s
105									
ce02868	[illegible]								
2869	HD 34029 (Capella)	05 09 18	+45 54	20 55 40	20 58 50	7 13 W			
2870	"	"	"	2006 20	2007 10				
2871	"	"	"	2010 45	2011 27	7 26 W			
2872	Comp							ThAr	30s
2873 2876	Flats x [illegible]							Tung	5s
2877 2878	BIAS (4) Comp							ThAr	30s
2879	HD 102870	11 45 30	02 20	22 05 00	22 25 56	2 08 W			
2880	Comp							ThAr	30s
FM000333 Pdr	HD 128718	14 33 4	48 39	22 45		0 18 E		N'mode	Int x4

Spectr. Temp
Focus
Spectr. Temp

Exp Mir S

5000
1050
1029

Spectr. Temp. ..... Dome Temp./Hum. 11.9 / 49.5 Transparency Conditions ... Clear

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... x-grating .2812 (600 ln/mm)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	19.00	.277 60μ	.2812 6707Å	600μ .205			
										T=14.4 F=.275	
										T=14.4 F=.255	
5000		0.08 V)	G6III	Telescope on reverse mode					SUM AVG ADU =	64000 (10 pix)	
1050				"					"	= 14000	"
1029				"					"	= "	"
								800μ .185		6400 ADU MAX 2877 mean = 18060 σ = 4.51	
								600μ			
3000		V= 3.61	F9V						β Vir	RV std | SUM AVG ADU = ~22000	
											43pix
										Dome facing W slight breeze from NW	

45 #2 Sun/Mon

Date 1991 May 19/20 Observers Tty/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce02881	Comp								
2882	HD 137909	15 23 42	29 27 00	23 00 00	23 16 05	0 39 E			
2883	"	"	"	23 18 45	23 38 27	0 17 E			
2884	Comp							Th Ar	30s
2885	Comp							Th Ar	
2886	HD 137107	15 19 06	30 39 00	23 45 45	00 25 45	0 35 W			
2887	Comp								30
2888	Comp							Th Ar	30
2889	HD 159561	17 30 18	12 38 00	00 34 00	00 40 23				
2890	"	"	"	00 44 45	00 51 01				
2891	Comp							Th Ar	30
2892	Comp							Th Ar	30
2893	Bias (4)								
2894	HD 161096	17 38.5	+4 37	01 02 00	01 11 39	0 51 E			
2895	HD 161096	"	"	01 19 00	01 29 38	41 E			

Spectr. Temp. ..... Dome Temp./Hum. 11.8 / 50.0 Transparency Conditions Clear .46

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	19.00	60μ .227	6707A	600μ			
3004	~2"		F0p						βCBr	SUM AVG ADU = 19800 over 10 pix's	
3000											
			G2V								
1752	1.5"	B= 6.2	G2V						ηCBr		
4003		B= 2.2	A5III						α Oph	SUM AVG ADU = 23500 (over 10 pixels)	
4010		"	"								
										mean = 180.14 σ = 4.56	
2004		B= 3.93	K2III							SUM AVG ADU = 23400 over 10 pixels	
2001									β Oph	RV Std	

#3 Sun/mm

Date 1991 May 19/20 Observers Ttg/Pdr

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
(2)02896	Comp							Th Ar	30s
2897	~~HD 145001~~ Comp			~~01 47~~				"	30s
2898	HD 145001	16 03.6	17 19	01 47	02 17	1 42 W			
2899	Comp								
2900	~~HD 182640~~ Comp								
2901	HD 182640	19 20 30	02 55 00	02 26	02 56	0 57 E			
2902	Comp							Th Ar	30
2903	Comp								
2904	HD 183912	19 26 42	27 45 00	03 14 45	03 23 45	0 34 E			
2905	Comp							Th Ar	30
2906	Comp →	lost	(due to	hard disk	space	problems)		Th Ar	30
(cont'd) 2907	HD 186791	19 41 30	10 22 00	03 32 15	03 40 05	0 33 E			
(cont'd) 2908	Comp							Th Ar	30
2909	Flats x5					0h	+10°	Tung	2s
2913									
2914	Bias (4)								
2915	Dark - 15m								900s

Spectr. Temp. ..... Dome Temp./Hum. 10.9/52.3 Transparency Conditions Clear ×48

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD echelle	19.0	60μ .277	6707	600m			
1051		V= 5.0	G5 III						K Her	RV Std SOM AVG ADU = 11800	
3074 ~~1056~~	3"	B= 3.68	F0 IV						δ Aql	sum AVG ADU = 21600	
2045		B= 4.2	K5 II						β Cyg A	sum Avg ADU = 26900	
2002		V= 2.62	K3 II								
										6400 ADU MAX	
					Bias + Dark done AFTER topup: no change in					mean = 174.23 σ = 9.74	
										Dewar temperature	

x9 Mon / Tue

1991 Date May 20/21 Observers Tuy / Pdr

Emulsion Batches:

FANS are ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
fit00870 &ts	Comp						No F18 stop	FeNe	
GO2916	Comp							ThAr	20s
2917	HD137909	15 23 42	29 27 00	21 36	22 06 10	1 46 E			
2918	"	"	"	22 09	22 29	1 22			
2919	Comp							ThAr	20s
2920	Bias (4)								
fit00871	HD137909	15 23 42	29 27 00	22 55	23 55	0 04 W			
+tag 872	"	"	"	23 57 10					
fit00873	Comp						F18 stop	FeNe	200s
874	"						No F18 stop	"	"
FM000334.fit	HD153399	(speckle head)						IN' mode Int x 4	
2921	Comp							ThAr	20s
2922	HD159561	17 30 18	12 38	20 51 5	21 9 49	0 21 W		IN' mode Int x 4	
2923	Comp							ThAr	20s
2924	Comp							ThAr	20s

Spectr. Temp. ..... Dome Temp./Hum. 14.6/59.1 Transparency Conditions Clear 250

Focus .....255.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]				Speckle PTS	831/39.5		6500A + GG550			separation 0".085 in 310°	
				Echelle CCD	16.90	60μ .277	.4020 5170Å	600μ .205			
1919	3".5	B= 3.93	F0p						βCrB	19000 SUM AVG ADU	
1176		"	"								
										mean = 153.15 σ = 4.39	
A=150 B=100		B= 3.93	F0p	Speckle PTS	as above						
"		"	"								
A=350 B=220											
				Echelle CCD	Dome pointing W light wind from N 16.90	60μ	5170Å	600μ		31×31 pix box	3.5 pix = 1".5
3000		B= 2.2	A5 III						α Oph	SUM AVG ADU 30500	

25" #2 Mon/Tue

Date 1991 May 20/4 Observers Tty/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
ce02925	HD161096	17 38 30	04 37	02 33 15	02 53 22					838
2926	Comp							Th/Ar	20s	
2927	Comp			~~03 04 45~~				Th/Ar	20s	
2928	HD182640	19 20 30	02 55 00	03 04 45	03 24 45	0 22 E				793
2929	"	"	"	03 25 30	03 45 30	0 03 E				775
2930	Comp									
2931 2935	Flats ×5					0h	+10°	Tung	6s	
2936	BIAs (4)									
2937 2941	Flats ×5					0h	+10°	Tung	6s	
	← fit00875.fts	flat	for speckle	[05:00]	07:00		A=1/4	Tung ND 8.2	2h	A=500 I=800

Spectr. Tem
Focus ... 4
Spectr. Tem

Spectr. Temp. ..... Dome Temp./Hum. 13.0 / 63.8 Transparency Conditions Clear ~2

Focus ... 2.55 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1838	3.5	B= 3.93	K2III	CCD echelle	16.90	60μ .277	4020 5170A	600μ .205	β Oph	RV Std 16300 SUM AVG ADU	
793		B= 3.68	F0 IV							Some clouds SUM AVG ADU 10200	
775	4"										
									+WORM		
		All file	s up to	ce02941.	fts to				Perseus	5800 ADU MAX	*
		All file	s up to	fit00874.	fts			"	"	mean = 182.00 σ = 4.51	
								600μ		6500 ADU MAX	*
								"			
A=1500 B=800											

* Note: The difference between Flats is probably due to the dark slide being partially closed during the exposure after seeing test

Perhaps this affected only the last star ⇐ Last set of Flats done with dark slide fully open

253 pg #1

Date 1991 May 21/22 Observers Pdr./Tm./J.Tg.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination APERTURE	Comparison Type/Filter	Comparison Exp.
CFF 1	Hartmann - IN							FeNe	60s
CFF 2	- OUT							"	"
CF 495	comparison			14.24	14:26		Clear	FeNe	120s
CF00496	Comp			2028			Clear	FeNe	120s
CF00497	HD 103095	11 47.2	+38 26	20 30 50	20 54 00	W			
CF00498	Comp						Clear	FeNe	120s
FN000335	Tn HD113811	13 01.2	+40 08	21 13		00 12 E		'N' mode	4 frames
CF00499	HD 122742	13 58.6	+11°60 00	21 20 45	22 06 45	0 17 E		'N' mode	
CF00500	BIAS (4)			2209					
CF00501	HD 122742	"	"	22 11 15	22 58 15	0 35 W			
CF00502	Comp						Clear.	FeNe	120s
CF00503	~~FLAT~~ DARK			23 19			~~Clear~~	TuffS	15 min
CF00504	DARK			23 37					15 min
CF00505	FLAT			0025					5 sec
506	FLAT			0027					5 sec

Spectr. Temp. ..... Dome Temp./Hum. +21°C ... 61% Transparency Conditions .. PART. Cloudy 754

Focus .. 17.00 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

3740 8 1024 10 1 ccdfmt
90 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s				CCD	1800/50.8	250	~~5170Å~~		camera focus F=17.000		
"					"	"					
120s					1800/52.7	250				(not written apparently To) cols 4,5 – stronger saturated	
					"	"		C1	CCD Turned down → −100°C ofs start,		
	3870	2"=3'	V 6.5	G8 III		1800/52.7	250u	5170Å	C2	Asm Sp Kk	2nd priority	SUM AVG ADU = 2500 over 2 pixels
						"	1	"	C3			
	31×31 pixels		V 7.53	K5 III			FIBER Head.			Seeing Test	No FAPS Tonight Dome WSW wind light + SW	
	5767	2"	V 6.2	G8 V		1800/52.7		5170Å		Asm Sp - Kk	Cloudy	sum avg adu = 5000 over 2 pix mean = 157.75 σ = 36.32
	1136		V 6.2	G8 V						Asm Sp Kk	VERY Cloudy	
									7c		CCD T = −101.8°	
									8c			
									10		≈ 5000 ADU	F stop was out
									11		" "	

#5 pg #2 Tues - Wed

Date 1991 MAY 21/22 Observers T.n. T.ty P.d.a

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CF00507fts	Comp						Clear	FeNe	120s
508	HD144287	16 00.0	+25 30	02 5230	02 2410	02 01 W			
509	Comp						clear	FeNe	120s
510	HD 158633	17 25 18	+67 24	02 29	02 49 22	01 04 W			
511	comp						Clear	FeNe	120s
512	HD8890B	01 22 36	+88 46	03 02	03 42 42	04 53 E			
513	Comp						Clear	FeNe	120s
514	BIAS (4)						[no Diffuser Clear f18 IN]		
515	FLAT							TUNG	10s
516	"						"	"	10s

Spectr. Temp. ..... Dome Temp./Hum. +17.6C 65% Transparency Conditions ..Clearing.....756.

Focus ..17.00.....

Spectr. Temp. ..... Dome Temp./Hum. +17.2C 65%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
	3'			CCD Fiber-fed	1800/52.7°	250μ	5170Å				
7500	2"	mpg 7.62	G8V						Asm Sp-KK		
8000	<3"	B= 7.09	G9V								
1600	<3"	V* 7.8	F3						Polaris B	*Perhaps it is fainter SW at 20" from Polaris	
										mean 13.869 σ = 3898	
Note at end of night we noted that f18 stop was not in place, nor was diffuser In											
								All	backed up to floppy : 10 Persus CCD/FF		

257 pg II

Wed - Thurs

Date 1991 MAY 22/23 Observers P.dr. I.Ta

Emulsion Batches:

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.....

.....Diffuser out for Comps

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
CF00517 ffs	Comp						f18 stop Clear	FeNe	120 sec	
518	HD 98839	11 17·2	+44 02	21 05 30	21 18 20	01 39 W				2030
519	"	"	"	21 20 15	21 50 00	02 11 W				51850
520	Comp						f18 stop clear	FeNe	120s	
FM000336Tn	HD120245	13 43·11	+38 23 33	22 00		00 03 E		Int x4	"N" mode	
CF00521	Comp						f18 stop Clear	FEA	240s	
522	HD125351 Comp	14 13·8	+35 58	22 14	22 44	00 10 W				2330
523	"	"	"	22 44 50	23 14 50	~00 39 W				4329
524	Comp							FeNe	120s	
525	HD129972	14 40 18	+17 23	23 28 25	23 58 25	00 57 W				35718
526	"	"	"	00 00 25	00 30 25	01 29 W				41400
527	Comp			00 45				FeNe	120s	
528	HD131156	14 46·8	+9 31	~~00 43 40~~	01 15 10	02 08 W				2330
529	"	"	"	01 15 40	01 45	02 39 W				41400
530	Comp							FeNe	120s	

Spectr. Temp. ..... Dome Temp./Hum. ~~+23°C~~ ..... 58% Transparency Conditions . 51. Hazy - some cloud .....

Focus . . 17.00 .....

Spectr. Temp. ..... Dome Temp./Hum. +18°C ... 70%

400 0 10 1024 4 1 CCDFMT >58

Fans on; Dome open by 1940EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/47.2°	250μ	4300Å		[Reliability Test = rG pgm]	30C GAIN CCDT → -100°C	
20,030	<3"	6.00	G8II							SUM AVG ADU = 1450 over 3 pixels	
51850	"	"	"						"	SUM AVG ADU = 2700 over 3 pixels	
~~51850~~										(VERY Light East breeze)	
31 x 31 pixels		V 6.95	~~KO~~ III			Fiber Head			seeing Test	Dome ~~F~~ (SV)	
			KO III			~~Fiber~~ Head		5a			
22,820	~~3"~~ 4"	~~5.85~~	~~G8V~~					6a	rG pgm	SUM AVG ADU = ~~1650~~ 1850 over 5 pixs 5' cloudy	
26 329		"	"					7a		"	1900
35 418		4.60	G8.5 III					8a	rG pgm	SUM AVG ADU (5 pixs)	2320
41400	3"	"	"					9a	"	"	2515
28000	<3"	5.30	G8V					10a	rG pgm	PART Cloudy SUM AVG ADU (5 pixels)	2175
24600	3"	"	"					11a	"	" "	

259 #2

Emulsion Batches:
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.....
.....Diffuser IN...

Date 1991 MAY 22/23... Observers ..J.G../..Pds.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
1Cf00531fts	Flat						F.18 stop Clear	TUNG	100s
532	"						"	"	200s
533	BIAS (x4)								
534	Comp						f18 stop Clear	FeNe	120s
1 535	HD133962	15 02 07	48 32 14	02 09 40	02 39 45	03 19			
(536	"	"	"	02 41	03 11	03 50 W			
537	Comp							FeNe	120s
538	Flat						f18 stop Clear	TUNG	300s
539	DARK 30 min			03 27					1800s
540	BIAS (4)			03 59					

Spectr. Temp. ..... Dome Temp./Hum. +17.7°C 71% Transparency Conditions .. Hazy ..... ≥60

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +17.6°C 72%

30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/47.2	25u	4300Å			MAX = 2500 ADU/pixel	
											mean 184.72 σ = 22.48
					1800/46.4°	25u	4100Å				
11 000	3-4"	5.5	AOV				"		r G pgm	some cloud SUM AVG ADU (5 pixels)	2075
12 250	"	"	"				"	14i	"	SUM AVG of 5 pixels	2150
										MAX ADU/PIX ~ 6000	
				All cf*.fts files to Persons + floppy						CCDT = -99.5 mean	186.92 σ = 21.38

261 pg #1 Thurs – Fri

Date 1991 MAY 23/24 ... Observers .Pdr./T.n..[r.G].+four (Looked at moon)

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cf00541	Bias (4)			20 04					
cf00542	Dark 30 min			20 06					
Fm00337.Tn	HD103095	11 47 13	+38 26 10	20 22		00 16 W		Ax Int	N made
CF00543	Comp						Clear F18 IN	FeNe	120s
CF00544	HD115735	13 13 59	+50 12 29	20 41 00	21 11 00	00 19 E			
545	Comp						clear f18 in	FeNe	120s
546	HD115735	13 13 59	+50 12 29	22 23 50	22 53 50	01 23 W			
547	HD135582	15 10 18	+29 32 07	22 58 35	23 30 10	00 04 W			
548	"	"	"	23 31 30	00 01 30	00 35 W			
549	Comp						clear, f18 IN	FeNe	120s
550	HD 140775	15 40 26.8	+05 45 40	00 07 10	00 39 20	00 42 W			
551	"	"	"	≈00 40	01 10	01 13 W			
CF00552	"	"	"	01 10 30	01 40 30	01 44 W			
553	Comp								
554	HD133962	15 02 07	+48 32 14	01 46	02 16	02 59 W			

Spectr. Temp. ..... Dome Temp./Hum. 7.23°C. 55% Transparency Conditions .. PART. Cloudy - Hazy ..... >62

Focus ....17:00.....

Spectr. Temp. ..... Dome Temp./Hum. .....

NO FINS Tonight Dome open @ 1940

CCD T → -100°C @ 1945 CG4117=30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/4GA	250μ	4100Å			CCD Temp set 20 mins previous Value = 186.19	
									CCD FINT same as previous night	400 0 10 1024 4 1	
39×39 pixels	semi OK	V 645	G8Vp			Fiber Head			No Wind	DOME W SW Hazy	
								(Instr Reliability Tests)			
36,100	<3"	B 5.08	B9.5IIIp					= rG pgm		Sum Avg of 5 pixels = 3900 ADU	
27,950	<3"	B 5.08	B9.5IIIp					4ci	rG pgm	SUM AVG of 5 pixs	3600
25,036	3"-4"	B 5.29	A1Vp					5ci	"	SUM AVG of 5 pixs	3000 ADU
21,844		"	"					6ci	"	"	2770
16,900	3"	B 5.57	A0V					7ci	rG pgm	511×5 Sum AVG of 5 pixs	2555
17,750	2"-3"	"	"					8ci	"	" "	2430
	<3"	"	"					9ci	"	" "	
13,151		B 5.57	A0Va					10ci	rG pgm	" "	3425

263
pg 02

Date 1991 MAY 23/24 Observers P.d.r. J.T.s

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CF00555	HD133962	15 02 07	+48 32 14	02 17 15	02 46 25	03 31 W			
556	"	"	"	02 49 50	03 19	04 03 W			
557	Comp						clear f18 IN	FeNe	120s
558	BIAS (4)								
559	FLAT						clear f18 IN	TUNG	30s
				All fits up to cf00559.fts to Perseus + floppy					

Spectr. Tem
Focus.....
Spectr. Tem

Exp. Mtr.
1-39
15-26

Spectr. Temp. ..... Dome Temp./Hum. +18°C ..... 70% Transparency Conditions . Clouding in 264

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
19780	<3"	B 5.57	AOV a	CCD Fiber Fed	1800/464	250μ	4100Å	11 ci	rG pgm	SUM AVG of 5 pix Cloud increasing	2735
15326	3"	"	"	"	"	"	"	12 ci	"	then clearing again	
										mean =	185.99
										σ = 22.36	
										Max ≈ 6300 ADU/pixel	
										CCDT @ 0333 = -100.6°C	

165 Mon/Tues

Date 1991 MAY 27/28 Observers F.d.s-..P.d.r-..T.n.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2062	Bias (4)								
2063	"								
2064	"			~20:10					
2065	Dark_900s			20:23					
Fm000339.Tn	HD 108100	12 20.1	+43 25 00	20 30		00 10W		'N' male	4x Int
2066	Comp			20 39 19				FeA clear	30s
2067	HD124897	14 11 06	+19 42	20 42 20	20 42 50	01 30 E			30 sec
2068	Comp			20 47			f 18 Stop In for Comps	FeA clear	30s
2069	Comp							"	30s
2070	HD120315	13 43 04	+49 48 45	21 01 45	21 12 50	00 31E			
2071	Comp			14 25				FeA clear	30s
2072 2076	Flats			21 21 06				TUNG clear	60s
(CCO 2077-78)	~~Comp~~ BIAS (4) 2			21 30 -					
2079	comp						f18 Stop Diff in Now	FeA clear	30s
2080	HD147933	16 19 35	-23 13 01	21 42 40	22 27 05	1 54 E			

Spectr. Temp. ..... Dome Temp./Hum. +23°C 82% Transparency Conditions Slhazy ≥66

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

510 0 80 1024 2 1

No Fums tonight CGAIN=30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CASS	1800/43.2°	250μ	4530Å			*G-4578 mean=	192.90 σ=7.45
31×31 pixels									seeing Test	Dome West-no wind	
										Diffuser out	
≈50000	OK	V 0	K0 III						std vel	"	
										"	
										"	
400 K	2"	V 1.86	B3V						Fels pyn	trailed exposure	
										Diffuser in	
≈10000	4"	V 5.02	B2 IV							Sath at close pair poorly resolved	

67 #2

Date 1991 May 27/28 Observers Fds-Pdr-Tm

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2081	Comp								
2082	Comp								
2083	Bias (4)								
2084	BIAS (4)								
2085	Dark (15)								
2086	Dark "								
2087	Dark "								
88	BIAS								
89	DARK (15m)								
90	DARK "								
91	DARK "								
2092-2096	5 + flat @ 45s, δ = -25°								
2097	Comp						f18 Clear	FeA	30s
2098	HD193237	20 14 06	+37 43 19	01 44 20	02 11 49				
2099	Comp						f18 Clear	FeA	30s
2100	Comp			02 17 40			"	FeH	30s

Spectr. Temp. ..... Dome Temp./Hum. 21.9/89.7 Transparency Conditions ... Cloudy 1/8

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Cass	1800/43.2	250μ	4530Å				
										Clouds, some rain	
										mean	189.99 σ=2.60
										2084 mean =	189.98 σ=2.60
										CCDT @ 00 hrs = -102.3°C	
											189.66 σ=2.58
60000	3"	V 4.89	B1						Fels pgm		

269 #3

Date 1991 May 27/28 Observers Fds-Tn-Pdr

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2101	HD184915	19 31 31	-07 15 00	02 19 20	02 48 36	0 44 E			
2102	Comp							FeA Clear	30s
2103	HD184915	"	"	02 50 50	032708	00 05E			
2104	Comp							FeA Clear	30s
2105	Bias (4)								
2106	"								
2107 2111	Flat							Tung Clear	45s
2112	Bias (4)								

Spectr. Ten
Focus .....
Spectr. Ten

Exp Mtr.
40 000

Spectr. Temp. ..... Dome Temp./Hum. 20.2/87.8 Transparency Conditions Part cloudy 270

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 19.4°C/88%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40000	3"-5"	4.95	B0.5	IIIa CCD Cass	1800/4372	250μ	4530Å				
50000											
~~50000~~											
										mean =	188.01
											σ = 2.67
					All to Perseus ONLY - Files too Large to do Floppy						
										2112 mean	186.18
											σ = 2.77

271 Tues-Wed. ~~Thurs~~

Date 1991 May 28/29 Observers Fds - Pdr

Emulsion Batches:

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.....Diffuser IN for sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD2113	Bias (4)			19 45					
2114	"								
2115	"			19 56					
2116-2125	Flat (×10)			E		0^h	$-25°$	Tung Clear	40s
2126	BIAS (4)								
2127-2136	Flat (×10)					0^h	$+45°$	Tung Clear	40s
2137	BIAS (4)								
2138	Comp							Fe A Clear	30s
2139	HD124897	14 11 06	+19 42 00	20 42 50	20 46 10				
2140	Comp							Fe A Clear	30s
2141	Comp								
2142	HD120315	13 43 04	49 48 45	20 55 33	21 14 00				
2143	Comp								
2144-45	BIAS (4) (×3)								
2146-48	DARK 15m (×3)			21 26 15					
2149	BIAS (4)								

Spectr. Temp. ..... Dome Temp./Hum. 23.7 / 57.2 Transparency Conditions Part cloudy → 272 overcast

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 22.5 / 59.2

Exp. Mtr.	Seeing	Pfg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Eds	1800/43.2	250μ	4530A		Fds	mean =	193.10 σ=7.53
										Diffuser IN	
											193.75 σ=7.52
											194.47 σ=7.47
60 000		0.0	K0 III								
1950		1.86	B3V							Trailed exposure Clouds	
										2144 mean	193.29 σ=7.5
				All to	Perseus	+	WORM			2145 mean	191.73 σ=7.53
										2147 mean	190.56 σ=7.59

273 Wed-Thurs

Date 1991 May 29/30 Observers Fds-Pdr

Emulsion Batches: NO FANS

Diffuser in for source

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CE02150-52	Bias (4)			18 36					
2153-55	Dark 15m								
2156	Bias (4)								
2157-76	Flats (×20)			19:30		0h	+45°	TUNG Clear	40s
2177	Bias (4)								
2178-87	Flats (×10)			20:07 50				TUNG Clear	40s
2188	BIAS (4)			20:20:00					
2189	Comp			20 28 57				FeA Clear	30s
2190	HD124897	14 11 06	19 42 30	20 37 00	20 38 12	1 26 E			
2191	Comp			20 39 16				" "	"
2192	Comp							" "	"
2193	HD130315	13 43 04	49 48 45	20 46 29	21 07 37				
2194	Comp			21 08 47				" "	"
FM000340	HD113811	13 01 12	+40 08	21 20		20 30 W		'N' mode	4× Int
2195	Comp							FeA Clear	30s

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions . Haze ..... >74

Few clouds

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 22.6 / 76.5

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Coss	1800/43.2	250μ	4530A			2150 mean	194.18 σ=2.43
										2151 mean	194.15 σ=2.44
										2152 mean	194.02 σ=2.44
										2156 mean	193.85 σ=2.41
										2177 mean	194.38 σ=2.46
											194.66 σ=2.38
100 000											
510 000		1.86	B3V							Trailed exposure	
31×31 pix		←	7.53	K5 III	Dome pointing W – No wind						

275 #2

Date 1991 May 29/30 Observers Fds - Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02196	HD120315	13 43 04	49 48 45	21 33 00	21 51 56				
2197	Comp							FeA	30s
2198	Comp				21 59 32			"	"
2199	HD147933	16 19 35	-23 13 01	22 01 50	22 48 20 ~~22 01 50~~	1 24 E			
2200	Comp			22 50 41				FeA clear	30s
2201	BIAS (4)								
2202	BIAS (4)								
2203-2204	DARK 15m (x2)								
2205	comp			23 46 12				FeA clear	30s
2206	HD148605	16 24 8	-24 53 42	23 48 30	00 05 24				
2207	comp			00 07 08				"	"
2208	Comp							"	"
2209	HD193237	20 14 06	37 43 19	00 35 58	0 58 [illegible]	03 07 E			
2210	Comp			01 01 03				"	"
2211-2212	Bias (4)								

Spectr. Temp
Focus
Spectr. Temp

Exp Mtr.

Spectr. Temp. ..... Dome Temp./Hum. 21.9/78.0 Transparency Conditions Part cloudy 276

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 20.6/87.2

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"	1.86	B3V	CCD Coass	1800/43.2	250μ	4530A			Trailed exposure	
10 725		5.02	B2IV							South of pair resolved in finder not resolved on screen Clouds	
										mean =	190.73 σ = 7.60
											190.74 σ = 7.59
900		4.79	B2V								
8735		4.89	B1						P Cygni		
										2211 mean =	189.84 σ = 7.60
										2212 mean =	189.83 σ = 7.59
				All to Perseus + WORK							

ZM Thurs - Fri

Date 1991 MAY 30/31 Observers F.d.s. - P.d.r. - T.m.

Emulsion Batches:

FANS ON

Diffuser IN for sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
CC02213 - 02215	BIAS(x4) 3			18 15 18	18 17 14				
CC02216 - 02218	DARK 3								15min
CC02219.FTS	BIAS(4)			19 05 52					
CC02220 2229	FLATS			19 08 10		0 0	+45°	TURQ CLEAR	40s
CC02230	BIAS(4)			19 21 16					
CC02231 - 02240	FLATS					0 0	+25°	TURQ CLEAR	40s
CC02241	BIAS(4)								
CC02242 - 2243	DARKS 2			19 46 40 20 02 58					15mn
2244	Comp							FeA CLEAR	30s
2245	HD 124897	14 11 06	19 42 30	20 34 38	20 37 55	01 22 E			
2246	Comp							FeA CLEAR	30s
2247	Comp							"	"
2248	HD 120315	13 43 04	+49 48 45	20 46 15	20 58 16	0 33 E			
2249	Comp								
Fmoon 34 In	HD 113811	13 01 12	+40 08	~21 08		~00 20 W	"N" mode		4x Int

Spectr. Temp. ..... Dome Temp./Hum. +24°C 76% Transparency Conditions Hazy .....2.78.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 30 CGAIN

FANS on BY 18EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CASS	1800/4332	250u	4530Å		510 0	80 1024 2 1 CCD FAST	
										2213 mean	195.11 σ=7.40
										2214 mean	195.09 σ=7.42
nodaker										2215 mean	195.10 σ=7.42
										2219 mean	194.26 σ=7.41
no daker										2230 mean	194.53 σ=7.40
										2241 mean	193.96 σ=7.45
										CCD T = -108.9°C	
310,000		1.0	KOIII						std vel	Trailed exposure	
400 000	2"	1.46	B3V								
										Light SW Breeze	
31x31 pixel		7.53	K5III	4 frames		1250u Head			seeing tod	Dome West	

219 #2

Date 1991 May 30/31 Observers Fds-Pdr-Tm

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02250	Comp			21 11 30				FeA Clear	30sec
2251	HD 120315	13 43 04	+49 48 45	21 13 43	21 28 19	0 03 E			
2252	Comp							FeA Clear	30sec
2253	Comp							"	"
2254	HD 193237	20 14 06	+37 43 19	21 59 02	22 55 15	05 07 E			
2255	Comp			22 56 30				FeA Clear	30s
2256	Comp			23 01 24				"	30s
2257	HD 120315	13 43 04	+49 48 45	23 03 22	23 20 57	01 49 W			
2258	Comp							FeA Clear	30s
CC02259 02260	BIAS (4) 3								
2262	Comp			00 39 52				FeA Clear	30s
2263	HD 184915	19 31 30	-7 15	00 41 41	01 44 14	1 36 E			
2264	Comp				01 45 23			"	"
2265	HD 184915	"	"	01 46 46	02 37	0 42 E			
2266	Comp			02 38 20				FeA Clear	30s
2267-2269	Bias (4) x3			02 39 30 02 48 55 02 44 36					

Spectr. Temp. ..... Dome Temp./Hum. 23.5°C / 78.9 Transparency Conditions Few clouds -80
Focus ..... → overcast
Spectr. Temp. ..... Dome Temp./Hum. +22.3°C 85.4%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CASS	1200/4.32	2"	4530Å				
30,000		V 1.86	B3V						Fds-pgm	Trailed for cal. flat	
19,500	3"	V 4.99	B1						Fds-pgm	thin → thick cloud	
16965	2"	V 1.86	B3V						Fds-pgm	part cloud - comp lost	
										2259 mean	191.52 σ = 7.56
										2260 mean	191.77 σ = 7.57
										2261 mean	191.75 σ = 7.57
200000		4.95	B0.5	III						Clouds	
										2267 mean	190.53 σ = 7.56
30603										Clouds 2268 mean	189.07 σ = 7.67
					All to Perseus + WORM					2269 mean	189.15 σ = 7.6

-81 pg#1 Fri Sat

Date ...MAY 31/June 1 Observers ...Fds./T.A.....

Emulsion Batches:
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note... P. Fraser in for R. sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02270-CC02272	BIAS(4) 3			18 44 00	18 45 44				
CC02273-2275	DARKS 3								15min
CC02276 2277	BIAS(4) 2			19 33 23	19 34 20				
CC02278-2287	FLATS 10			19 36 18			+45°	TUNG Clear	-
CC2285-2289	BIAS(4) 2			~~19 51~~ 30	20 16 30				
CC02290	Comp			20 36				FeA Clear	30s
2291	HD124897	14 11 06	+19 42 30	20 42 47	20 46 41	01 08E			
2292	Comp			47 44				FeA Clear	30s
2294	HD120315	13 43 04	+49 48 45	20 55 19	21 09 36	00 19E	CC02295 CC02295	FeA Clear	30s 30s
FM000343 Tn	HD120245	13 43 11	+38 23 33	21 17		00 12E		4xInt	"N" mode
CC 2297	HD120315	13 43 04	+49 48 45	21 22 14	21 53 12	00 32W	CC02296 CC02298	FeA Clear	30s 30s
2299	"	"	"	21 59 46	22 16 22	00 48W	CC02300	FeA	30s
2302	HD 148605	16 24 07	-24 53 42	23 30 08	22 52 40	01 16 E	CC02301 CC02303	FeH	30s
2304	BIAS(4)			22 57					
CC02305 2314	FLATS (10)					01 09E	-25°	TUNG clear	30s

Spectr. Temp. ..... Dome Temp./Hum. +22°C 62% Transparency Conditions .. PART Cloudy .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +20°C 68%

CGAin = 30
No FANS Tonight

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	~~E0~~ CASS	1800/4302 250u	4530Å		Same CCD FMT	ie 510 0 80 1024 2 1	2270 mean 192.95 σ=7.49
											2271 mean 192.78 σ=2.50
											2272 mean 192.75 σ=7.50
no decker	[	decker	set for	full length	for	FeA	and Stellar	exps	]		2276 mean 190.50 σ=7.54
											2277 mean 190.66 σ=7.54
											2288 mean 189.11 σ=7.60
35,000		V 1.0	KO III						Stellar		2289 mean 190.05 σ=7.57
400,000	2-3"	V 1.86	B3V						Fds pgm	~~Mmm~~ medium ~~Mod~~ NW breeze	
~~en~~ 4 frames		V 6.95	KOIII	set mk III speed to "S"		250u Head			seeing test	Dome WSW	
400,100	3"	V 1.86	B3V						Fds pgm	part Cloudy	
400,200	2"	"	"						"		
	4"	V 4.79	B2V						"	clearing → cloudy again	
											196.45 σ=7.77
(Decker out)											

283

pg #2

Date 1991 MAY 31/JUN 1 Observers F.d.s.-T.a.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD2315 fts	BIAS (4)			23 30 20					
2316	DARK			23 31 20					15min
2317	DARK			23 52 54					15min
2318	DARK			00 16 12					15min

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... Cloudy 84

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Note: Slit Length for Stellars Comps has been Full Length.						
15min										2315 mean CCD T = -102.6°C	187.14 σ=7.70
15min											
15min										CCD T = -102.7°C @ 00:20	
			All To Peasas/CASS and WORM								

XS

SAT-SUN 1 Large Tour (looked at whirlpool Gal) 2hrs

Date 1991 JUNE 1/2 Observers Fds-Tm

Emulsion Batches: .....

.....

..... Diffuser IN

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2319-2321	BIAS(4)			19 09 30	19 10 00				
CCO2322-2324	DARKS 3								15min
CCO2325	BIAS(4)			20 07 50					
CCO2326-2328	DARKS 3								15min
CCO2329	BIAS(4)			22 35 00					
CCO2331	HD148605	16 24 08	-24 53 42	22 37 55	23 26 44	E	CCO2330 CCO2332	FeA Clear	30sec
CCO2333	HD148605	"	"	23 28 35	00 17 11	W	CCO2334	"	30sec
2335	HD148605	"	"	00 19 12	00 53 04	00 47 W	CCO2336	"	30sec
2338	HD193237	20 14 06	37 43 19	01 01 24	01 33 18	02 21 E	CCO2337 CCO2339	"	30sec
2340	BIAS(4)								
CCO2341-2350	FLATS 10					0 0	-25°	TUNG Clear	30sec
2351	BIAS(4)			01 51					
CCO2352-2361	FLATS 10					0 10W	+45°	TUNG Clear	30sec
CCO2362	BIAS(4)			02 03 30					

Spectr. Temp. ..... Dome Temp./Hum. +18.5°C 55% Transparency Conditions .. FINE 216

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +16°C 60%

note - They should have been off. FANS on system after TOER - clouding in

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	1800/43.2	250µ *	4530Å			No seeing Test done anyway 2319 mean * 2nd Longex + slit Used	190.17 σ = 2.54
										2320 mean	190.09 σ = 7.35
										2321 mean	190.14 σ = 7.55
										2325 mean CCD T @ 22 = -101.0°C	183.05 σ = 7.67
										2329 mean	183.54 σ = 7.87
40000	4"	V 4.79	B2V			250µ *			Fds-pgm		
40000	4-6"	"	"						"		
20000	4	"	"						"	Some cloud (cloud at end)	
3000	3+	489	B/P						P Cygni	transit below in sight mean = CCD T = -102.0°C	184.02 σ = 2.11
(no decker)										mean =	183.27 σ = 1.89
no decker											
				ALL NES to Perseus / CASS + NORMed To 91-06				1st 12		OR so and missing CDS-Mono in headers	182.53 σ = 7.93

VM pg #1 sun-mon

Date 1991 JUNE 2/3 Observers F.d.s.-T.a

Emulsion Batches:

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..... Diffuser in for sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02363 – 2365	BIAS(4) 3			174000					
2366 – 2368	DARKS 3								
CC02369	BIAS(4)			185036					
CC02370 – 2379	FLATS			185247			+45°	TUNG CLEAR	30s
2380	BIAS(4)								
CC02381 2390	FLATS			190720			0°	TUNG CLEAR	30s
CC02391	BIAS(4)								
CC02392 2401	FLATS						-25°	TUNG CLEAR	30s
CC02402	BIAS(4)			194000					
CC02404	HD124897	14 11 06	+19 42 30	203519	203748	01 11E	CC02403 CC02405	FeA CLEAR	30s
2407	HD 120315	13 43 04	+49 48 45	204514			CC02406 CC02408	"	"
FM00344T4	HD 120245	13 43 11	+38 23 33		2100	00 20E		Int x0 FeA	"N" mode
CC02410	HD 148605	16 24 08	-24 53 42	212637	221657	01 40E	CC02409 CC02411	FeA CLEAR	30s
CC02412	"	"	"	221909	230100	01 02E	CC02413	"	"
2414	"	"	"	230300	234344	00 19E	CC02415	"	"

Spectr. Temp. ..... Dome Temp./Hum. 21.6°C 42.5% Transparency Conditions ... Fine ... slight haze

Focus ... Still set for +21°C

Spectr. Temp. ..... Dome Temp./Hum. .....

Fans on by 1730

30 CGAin / 510 0 80 1024 2 1 CCOFmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	1800/432	250µ *	4530Å			* 2363 mm Longest slit for exps other than Fla 5 2364 mm	190.01 σ=7.54 190.00 σ=7.56
										2365 mm	189.89 σ=7.55
30s	no decker									2369 mm CCOT @ 20 EST = -101.5°C	189.92 σ=7.55
										2390 mm	189.94 σ=7.56
30s	no decker										
											190.38 σ=7.57
30s	no decker										
											189.30 σ=7.63
30s	374,000		1 V	KO III					Std vel		
"	540,000		1.86 V	B3 V					Fds pgm		
1 min	31 x 31 grids		6.95 V	KO III	4 Frames		259µ Hard	Dome SW	seeing Test	No wind at all note forgot to do Int x 4 (1/15 sec)	
30s	30,000		4.79 V	B2 V					Fds - pgm	Top up @ 21 10	
1	31,800	3"-4"	"	"					225-0		
1	31,800								"		

289 #2 Sun-mon

Date 1991 June 2/3 Observers ...Fds.-Tn.....

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02416 Fds	HD148605	16 2408	-24 5342	23 4714	00 2751	00 25W	CC02417	FeA Clear	30sec
CC02418 Fds	HD148605	"	"	00 3008	01 1150	01 09W	CC02419	"	30s
CC02421	HD193237	20 1406	+37 4319	01 1746	01 3803	02 12E	CC02420 CC02422	"	30s
CC02425	HD184915	19 3131	-07 1504	01 4414	02 0957	00 56E	CC02424 CC02426	"	30s
CC02423	BIAS(4)			01 4055	—				
CC02427	HD184915	19 3131	-07 1504	02 1200	02 3848	00 27E	CC02428	FeA Clear	30s
CC02429	HD184915	"	"	02 4000	03 0558	00 01W	CC02430	"	30s
CC02434 - CC02433	BIAS(4) × 3			03 0918					

Spectr. Temp. ..... Dome Temp./Hum. +19°C ... 57% Transparency Conditions ... S.l. hazy ... 290...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +18°C ... 60% Complete Cloud at end

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
30000	3"-5"	4.79	B2 V	CCD CASS	1800/13.2	25μ	4530Å		fds-pgm		
26300	5"-7"	"	"						"		
60000	3"	4.89	B1 p						P_{11} C49	CCOT = -101.5°C	
40000	2"-3"	4.95	B0.5 III						fds pgm	2423 mean	183.84 σ=7.59
40000	3"	4.95	B0.5 III						fds pgm		
35600	3"-4"	"	"						"	some cloud	
										2431 mean -102.7°C CCO Temp	183.29 σ=7.94
				All NFS to Persons / CASS = Wojtanek						2432 mean	183.39 σ=7.94
										2433 mean	183.15 σ=7.94

291
pg #2 mon-Tues

Date 1991 JUNE 3/4 Observers T. [illegible] [K.K.]

Emulsion Batches:
FOR TUNG & Comps
Diffuser OUT
F 1.8 stop IN

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CF00560.fts	BIAS (4)								
561.fts	Comp							FeNe Clear	120sec
CF00562	FLATS (2)							TUNG Clear	15sec
CF00563									
CF00564	HD112956	12 55.2	+69 19	22 05 30	22 58 30	02 31 W			
565	Comp							FeNe Clear	120sec
566	HD122742	13 58.6	+11 16	23 04 20	23 47 40	02 15 W			
567	Comp							FeNe Clear	120sec
568	HD 144287	16 00.0	+25 30	23 53 00	00 39	01 06 W			
569	Comp			~~23 53 00~~				FeNe Clear	120sec
570	HD 158633	17 25.3	+67 24	00 45	01 15	00 30 W			
571	Comp							FeNe Clear	120s
572	Bias (4)								
573	HD 140538	15 39.1	+02 50	01 22 45	01 45 15	02 33 W			
574	Comp							FeNe Clear	120s
575	BIAS (4)								

Spectr. Temp. ..... Dome Temp./Hum. +14.5°C 70% Transparency Conditions ..Clearing from NW.....

Focus ..... CCD FMT = 3720 8 1024 10 1 -92

Spectr. Temp. ..... Dome Temp./Hum. ..... PO FANS Tonight 90 CGAIN CCD T @ 2130 = -101.5°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/52.7	250μ	5170 *			* nominal center meah for 52.7 actually 51.20	137.74 σ=39.42
4440	4"-6"	8.75	dG6					6ci	Asm Sp- kk	2681 ADU sum AVG of 2 cols.	
7000	5"-8"	6.8	G8V						Asm Sp kk	5688 ADU Sum AVG of 2 cols.	
** 5000	5"	7.62	G8V					10ci	Asm Sp- kk	* HV Exp meter problem spontaneous shutter fail to Fail, 4220 ADU sum AVG of 2 cols	
* ~ 5400	5"	7.09	dk1 or G9V						Asm Sp kk	* est counts	
		6.55	~~dG5~~						~~Asm Sp- kk~~	mean = 137.92 σ=39.13	
~ 6800	4"	6.55	dG5					14ci	Asm Sp- kk	6700 Sum Avg of 2 Cols	
											137.08 σ: 39.0

213 pg42

Date 1991 JUNE 3/4 Observers T.ty. /T.h

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FM00345.T	HD171232	18 28.5	+25 25	01 54	4 frames	00 06E	4×Int	(1/15sec)	N' made
CF00576	HD171232	"	"	01h55m40s	0228	0027W			
577	Comp							Fe/Ne Clear	
578	BIAS(4)								
CF00579 5586	FLATs (white finding Po'B)							Tung Clear	15sec
CF00587	HD8890B	01 22.6	+88 46	02 49 10	0339	0619E			
588	Comp							Fe/Ne Clear	120s
589	Bias(4)								
590-597	Flats							Tung clear	15s
~~598~~	~~Dark (15m)~~		got missed up. not done.						

Spectr. Temp. ..... Dome Temp./Hum. +13°C ... 69% Transparency Conditions . PART. Cloudy ..... 2nd.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +13.3°C ... 72.8% Tau Herculids is a minor slow meteor Centered @ JUNE 3 I saw 3 good slow meteor from NE around midnight Tn

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
39x39 pixels	POOR	V 7.73	(moderate NORTH wind)			Fiber Head	Dome SW		Seeing Test	some cloud patches	
3400	4"	V 7.77	G8 III	CCD Fiber Fed	1800/527	25μ	5170Å	~~16ci~~	stdvel also	cloud	
										mean = 138.92	
										σ = 39.05	
1950	.	V 7.8 ?	F					16ci	Asm Sp KK	SW ~ 20" from Polaris	
									Cape'o in	For NE (I guess)	
											138.12
											σ = 39.03
									CCD T @ 0444	-100.4°C	
				All To Floppy =					[WORM (DIR 91-06)]		
		An Observation on Archiving.		If we					also sent CE to Persons, data		
		would be in another physical location,							~~is~~ Cet often than when sent		
									is more safe.		

295
pg #1 Tues- wed

Date .1991 JUNE 4/5.... Observers .K.t...T.t...T.n.....

Emulsion Batches:
.....
.....
..F.I.S..Stop.In.&.Diff Out

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
SBIG TESTS	ε CVn	1991.5 12 55.6	1991.5 +38 22						
CF00598fts	BIAS (4)			00 20					
599	Comp							FeNe Clear	60sec
600	HD122742	13 58 36	+11 16 00	00 23	00 45 56	03 17 W			
601	"	"	"	00 47	01 11 45	0343 W			
602	"	"	"	01 12 30	01 39 50	04 11 W			
CF00603	Comp							FeNe Clear	50s
Fm00346	HD171232	18 28.5	+25 25	01 47		00 10 E		4x Int	N mole
CF00604	"	"	"	01 48	02 17 35	00 20 W			
605	"	"	"	02 18	02 49	00 52 W			
606	Comp							FeNe Clear	50s
607 608	FLATS 2							Tung Clear	8sec
609	HD 8890B	01 27.6	+88 46	02 59	03 22	06 33 E			
610	"	"	"	03 22	03 48	06 07 E			
611	Comp							FeNe Clear	50s

Spectr. Temp. ..... Dome Temp./Hum. +17°C ... 55% Transparency Conditions . PART... Cloudy ..... 296..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +13°C ... 70%

FANS on Rain at times

CCD T → −100 @ 20:10 Nice Aurora Late

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
		V 5.60	FOV	SBIG CAMERA	Too cloudy for good tests				Δm 205	≈ width of view 25" Sep 20" double 5"8	131.46 θ = 50.30
	6"			CCD Fiber Fed	Note binning for single column ⇒ 355					0 7 1024 20 1 CCD FINT	
		B			1800/52.7	25μ	5120Å			x nominal Control angle very strong	
5003	5"	6.8	G8V						A sm Sp kk	4200 ADU Sum AVG 1 col	
5003	4"-6"	"	"								
5000	"	"	"							4413 ADU Sum AVG 1 col.	
										N winds 17 kms/hr	
31 x 31 pix	4"?	V 7.73	G8III	4 frames		Fiber Hand			Seeing test	SW Dome facing	
3100	4"	"	"	CCD fiber fed	1800	25μ	5120Å		std vel	2429 ADU Sum AVG	
2800		"	"						"		
575		V 7.8?	F						A sm sp kk	601 ADU Sum AVG	
590		"	"								

pg 2 of 7

Date 1991 JUNE 4/5 Observers J.L. / T.ty

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CF00 612 Fls	BIAS (4)			03 52					
CF00 613 620	FLATS								
621	~~DARK~~ BIAS(4)			~~04 00~~					~~900s~~
622	DARK 15min			0400					900s

Spectr. Ten
Focus
Spectr. Ten
Exp. Mtr

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .. Clear ..... 98..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										mean = 131.93	σ = 50.34
											132.30
											σ = 50.09
										CCDT - 100.4 @ 420	
					Backed up To Floppy & WORM						

299 pg #1 Wed-Thurs

Date 1.9.91 JUNE 5/6. Observers T.Ty - T.T. K.K. (SBIG Tests)

Emulsion Batches:
.....
.....F.I.8 Stop IN } for Sources
.....Diffuser OUT }

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
623	BIAS									
624	DARK								15sec	
625 634	FLAT							TUNG Clear	7sec	
635	Comp							FeNe Clear	50sec	
636	HD122742	13 58 36	+11 16 00	22 27 30	22 34 15	01 10 W				6300
637	"	"	"	22 35	22 41	01 16 W				6374
636	"	"	"	22 42	22 48	01 24 W				6450
639	Comp							FeNe Clear	30sec	
640	HD122742	13 58 36	+11 16 00	22 54 46	23 06 46	01 42 W				6533
641	"	"	"	23 18 30	23 29	02 04 W				6640
642	~~Comp~~ BIAS									
643	~~BIAS~~ Comp							FeNe Clear	30sec	
644	HD144287	16 00 00	+25 30	23 38 15	23 47 15	00 22 W				1813
645	"	"	"	23 47 30	23 55 45	00 31 W				1919
646	"	"	"	23 56	00 03 15	00 38 W				1930
647	Comp							FeNe	30s	

Spectr. Temp. ..... Dome Temp./Hum. +16C 72% Transparency Conditions ..... Clearing 300

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

90 CGAIN
355 0 7 1024 20 1 CODFMT
Nice AURORA AGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/538*	250μ	5120Å			mean = 134.52 * Actual ∠ of grating σ = 49.31	
										CCOT @ 20:29 = -100.4°C	
2200	4"	B 6.8	G8V						Asm Sp-KK		
2274		"	"						"		
2150		"	"						"		
2523	3"-4"	B 6.8	G8V						Asm Sp KK	White with SBIG guider	
2240		"	"						"		
										mean = 134.83 σ = 50.24	
1813	3"	7.62	G8V						Asm Sp-KK		
1819										1790 Sum AVG ADU	
1820											

301 pg #2

Date 1991 JUNE 5/6... Observers Tn./Tty.....

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CF00648	HD158633	17 25.3	+67 24	00 0930	00 14	00 32E			
649	"	"	"	00 1830	00 23	00 24E			
650	"	"	"	00 2345	00 28	00 18E			
651	~~BIAS~~ (4)							~~Feltz~~ ~~Clear~~	~~30s~~ ~~Comp~~
652	COMP							Felt	
653	HD 8890B	01 22.6	+88 46	00 3815	01 0500	8 45E			
654	"	"	"	01 0530	01 3230	-818E			
655	"	"	"	01 3300	01 5030	08 00E			
656	COMP							Felz	30s
657	BIAS (4)							~~Felz~~	~~30s~~
Fm000347.Tn	HD176844	18 57 03	+40 32 36	02 01		00 19E	Forgot	4x Int	(9 Int.)
Fm000348.Tn	"			02 05		0015E	CF00659 Comp	4x Int	
658	HD173740	18 41.8	+59 29	02 1500	02 36	0031W		Felz Clear	30s
CF00660 – 669	FLATS (10)							Tung Clear	7sec
CF00670	HD173740	18 41.8	+59 29	02 55	03 15	01 12W			

Spectr. Temp. ..... Dome Temp./Hum. +15°C 75% Transparency Conditions ..... Fine .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +13.6°C 69.5%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
1600	4"	7.09	dK1 or G9V	CCD Fiber RL	1800/53.8°	250μ	5120Å		Asm Sp - kk	Some cloud	
1640										1431 SUM AVG ADU	
1700											
~~30 sec~~										mean =	134.84 σ = 50.28
30s											
992	3"	V 7.8	F						Asm Sp - kk	1017 Sum AVG ADU	
887		"	"						"	926 " " "	
660		"	"						"	Clouds interrupted	
											131.99 σ = 50.03
31x31 pixels		V 6.65	M2III	N mode		Fiber Head			Seeing Test	Dome W Light N wind	
31x31				N mode.		"			" "	" " "	
374	3"	V 9.69	dM5			250μ	SOUTH and Fainter of pair		Asm Sp - kk	303 ~~SUM AVG ADU~~ Cloud again	
580	<3"	V 9.69	dM5							372 ADU AVG 1col	

403

pg #3

Emulsion Batches: .....

Date 1991 JUNE 5/6 Observers T. Ty - T. Ta .....

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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
CF00671	HD173740	18 41·8	+59 29	031530	03 3630	0133 W				590
672	Comp							FeNe Comp	30s	
673	DARK								15 min	

Spectr. Ten
Focus .....
Spectr. Ten

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... ~0K

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +13.7C 69%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
590	2.3"			CCD Fiberlet	1800/53.8Å	250	5120A			Some cloud	
					Backed up to floppy & worked.						

305

pg #1

Date ..1.9.91..J.40.E.6/7 Observers .T.n./.P.dr...[r.G.c.Trudel]

Emulsion Batches:

.....

.....Diff. Out for Comps

.....F.18.5.Stop IN

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC0234.fts	BIAS (4)								
Fm 000 349.Tn	HD120245	13 43 11	+38 23 33	20 50		00 14E		'N' mode	0 Int
350.Tn	"			20 54		00 10E		'N' mode	4×Tn
CC0235	Comp							FeNe Clear	10 sec
CC0236	HD 98839	11 17.2	+44 07	21 15 30	21 35 30	2 56 W			
2437	Comp							FeNe Clear	10 sec
2438	HD98839	11 17.2	+44 02	21 41	22 11	3 31 W	2439.fts	FeNe Clear	10 sec
2441	HD125351	14 13.8	+35 58	22 17 35	22 40	1 06 W	2440.fts	"	"
2443	HD125351	"	"	22 42 40	23 06 40	1 32 W	2442.fts 2444.fts	"	"
2446	HD129972	14 40.3	+17 23	23 12 30	23 37	1 35 W	2445.fts 2447	"	"
2448	"	"	"	23 39	00 05	2 04 W	2449	"	"
2450	Bias (4)								
2451	Comp							FeNe Clear	10 sec
2452	HD 131156	14 46.8	+19 31	00 12 20	00 39 10	2 31 W	2453.fts	"	"
2454	"	"	"	00 43	01 17	3 08 W			
~~2455~~	Comp						"	"	"

Spectr. Temp. ..... Dome Temp./Hum. +18.5°C 57% Transparency Conditions ... FINE ... v. s/haze ... 306

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

format: 550 0 40 1024 2 1

30 c gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS						FARSON + DOME OPEN @ noon CCD T = −100.2°C	164.62 σ = 10.94
31×31 pinh		V 6.95	KOIII			25μ Hand			seeing test	Note forgot to set Int = 4x900s	
"					(slit Length 2nd longest)				DOME V/SW, no wind		
		B			1800/41.8 *	25μ	4315Å			* G-4425	
71580	2"	6.00	G8II					2ci	rG pgm	SUM AVG ADU = 12800 (over 10 pixels)	
120,180		"	"					3ci	rG pgm	SUM AVG ADU = 21650	
111,600	2"	5.85	KOIII					4ci	rG pgm		
111 400								5ci		SUM AVG ADU = 19720	
13 000		4.60	G8.5III					6ci	rG pgm	SUM AVG ADU = 22050	
17 000								7ci		" " = 22420	
										180 ADU f cond	183.54 σ = 11.02
										Some Thin Cloud	
120 100	2"	4.54	G8V					8ci		" " = 22300	
120,000								9ci			
				1st write							

307 pg #2

Date 1991 JUNE 6/7 Observers P.d.e.-T.a

Emulsion Batches:
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.....
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2455 Fls	Comp							FeNe Clear	10sec
2456	HD EG Ser	18 25 4	19877 -01 41	01 28 30	02 02	00 19 W			
2457	Comp							FeNe Clear	10sec
2458	EG Ser	18 25.4	-01 41	02 03 30	02 43 30	1 02 W			
2459	Comp							FeNe Clear	10 sec
2460	Bias (4)								
2461	Comp							FeNe Clear	10s
2462	HD 182572	19 20.2	+11 44	02 50 20	02 55 30	0 14 W	[illegible]		
2463	Comp							FeNe Clear	10s
2464	Flat					0 23 W	+11 54	Tung Clear	40s
2465	Flat							"	60s
2466-2469	Flat (x4)							"	50s
CCO2470	DARK			03 18					2 min
2471	DARK			03 42					20 min

Spectr. Tem
Focus.....
Spectr. Tem

Exp Mtr
4:20
4:40
1:300

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... S1. hazy - steady ....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 415.5c ... 60% 308

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V	B-V	CCD CASS	1800/41.8	250u	4305/A				
4020	3"	8.22 - 8.93	0.22	CCD CASS				10ci	Trudel/pym	2,800 SUM AVE ADU for 10 cols	
4160		V 8.22 - 8.93						11ci.	"	thin c/out again T_{CCD} = -101.2	
										mean = 192.71 σ = 14.02	
13000	2-3"	6.0	K					12ci	stfbel		
Diffuser IN For Flats					Slit 250u Length Longest for Flats			14ci			
								15ci			
								16ci - 19ci			
										T_{CCD} = -101.2	
					All to Worm by DOS services / and NFS to Fearsons (out of Des & view)						

209 Fri/Sat

Date 1991 June 7/8 Observers Lu/Pdr

Emulsion Batches: FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
FM000351.Pdr	HD120245	13 43 11	38 23 33	21 08			'N' mode	4x Int	
FM000352.Pdr	"								
cc02472	Bias (4)			21 15 30					
2473	Comp			21 20				Fe A Clear	60s
2474	HD114762	13 07.5	18 02	21 31 05	21 41 35	1 16 W			
2475	Comp							"	"
2476	Comp							"	"
2477	1E1654+35	16 52 11	35 20 27	22 11 30	22 31 30	1 37 E			
2478	Comp							Fe A Clear	60s
2479	1E1654+35	"	"	22 42	23 02	1 06 E			
2480	Comp							Fe A Clear	60s
2481	bias (4)								
2482	1E1654+35	"	"	23 10 10	23 30 35	0 38 E			
2483	Comp							Fe A clear	60s
2484	1E1654+35	"	"	23 37	23 57	0 11 E			

Spectr. Temp. ..... Dome Temp./Hum. 19.5/50 Transparency Conditions clear 3/0

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 30 cgain 550 0 40 1024 2 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	@ 1800/461	250μ	5010Å			G = 4900	
	2"			Dome pointing SW				no wind			
										mean = 186.36	σ = 10.50
		V = 7.31	dF7	~~F~~							
3674		↓	↓					3a		SUM AVG ADU = 3970	
435		V = 10.1	G2					4a		SUM AVG ADU = 2084	
540		"	"					5a		SUM AVG ADU = 2180	
								~~F~~		mean = 185.51	σ = 10.55
578	3"				$T_{CCD} = -100.6$ °C			6a			
410								7a			

311 #2 34

Date 1991 June 7/8 Observers Lu/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2485	Comp							FeA clear	60s
2486	1E1654+35	16 52 11	35 20 27	00 02 40	00 22 40	00 12 W			
2487	comp							"	"
2488	1E1654+35	"	"	00 27 10	00 47 10	00 37W.			
2489	comp							"	"
2490	1E1654+35	"	"	00 52 05	01 12 05	01 03 W			
2491	Comp							"	"
2492	bias (4)								
2493	Comp								
2494	HD140913	15 41.1	+28 47	01 25 40	01 35 40	02 38 W			
2495	Comp							FeA clear	60s
2496	Comp							"	"
2497	1E1654+35	16 52 11	35 20 27	01 49 05	02 09 05	02 01 W			
2498	comp								
2499	1E1654+35	"	"	02 13 00	02 33 00	02 25 W			

Spectr. Temp. ..... Dome Temp./Hum. 16.2 / 57.6 Transparency Conditions ..... Few Clouds 3/2

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/	250μ	5010Å	8 ci			
362		V=10.1	G2					9 ci		high clouds	
								10 ci			
369		"	"					11 ci		SUM AVG ADU = 1990	
293	3.5"	"	"					12 ci			
										mean	182.45
											σ = 11.02
		8.21 ↓	60 V ↓					13 ci ↓			
1420											
421								14 ci			
375								16 ci			

313

Date 1991 June 7/8 Observers Lu/Pdr

Emulsion Batches:
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.....
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2500	comp								
2501	1E1654+35			02 36 20	02 56 20	02 48 W			
2502	comp								
2503-2504	Flats (x2)					0h	+35	Tung Clear	5s
2505-2507	Flats (x3)					"	"		10s
			All to Perseus			+ WORK			

Spectr. Tem
Focus.....
Spectr. Tem

Exp Mtr.

Spectr. Temp. ..... Dome Temp./Hum. 16.3 / 54.5 Transparency Conditions Thin clouds 3/4

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/	250μ					
375								17 ci			
5s								18-19 ci			
10s								20-22 ci			

315 Sat/Sun

Date 1991 June 8/9 Observers Lu/Pdr

Emulsion Batches: FANS ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FM000353	M13								
2508	bias (4)								
2509	Comp			22 52				FeA Clear	60s
2510	HD140913	15 41.1	+28 47	22 55 20	23 05 20	0 11 W			
2511	Comp								
FM000354	HD144579	16 01 30	39 25 36			~0h		IN' mode	Int x4
2512 Pdr	Comp							FeA Clear	60s
2513	1E1654+35	16 52 11	35 20 27	23 24 45	23 44 45	0 20 E			
2514	Comp							"	"
2515	1E1654+35	"	"	23 49 26	00 09 26	0 04 W			
2516	Comp							"	"
2517	1E1654+35	"	"	←	00 14 15	00 34 15	0 30 W		
2518	Comp							"	4
2519	Bias (4)								
2520	1E1654+35	"	"	00 40	01 00				
2521	Comp								

Spectr. Temp. ..... Dome Temp./Hum. 19.0/58.4 Transparency Conditions Clear 316

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/46.1	250μ	G=4900 5010Å				
1180	3"	8.24 V=	G0 V					2ci			
31×31 pix		6.66 V=	G8 V							Dome pointing W no wind	
354		10.1 V=	G2					3ci		SUM AVG ADU = 2020	
42								4ci			
441								5ci			
447								6ci			

317

#2

Date 1991 June 8/9 Observers Lu/Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD2522	1E1654+35	16 52 11	35 20 27	01 03 42	01 23 42	01 19 W			
2523	Comp							Fat Clear	60s
2524	1E1654+35	"	"	01 27 40	01 47 80	01 43 W			
2525	Comp							"	"
2526	1E1654+35	"	"	01 51 47	02 12 47				
2527	Comp							"	"
2528	Comp							"	"
2529	HD187691	19 46.2	+10 10	02 21 10	02 23 10	0 36 E			
2530-2531	Flat (x2)			02 32				Thing Clear	5s
2532-2534	Flat (x3)							"	10s
2535	Bias (4)								

All to Perseus + WORM

Spectr. Temp. ..... Dome Temp./Hum. 17.0/63.0 Transparency Conditions Clear 318...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
454	4.0"	V= 10.1	G2	CCD Cass	1800/46.1	250μ	5010A	7a			
								8a			
425								9a			
421								10a			
3059		V= 5.11	F8V					11a		$T_{CCD} = -101.7$	
								12-13		MAX ADU ~ 6800	
								14-16		MAX ADU ~ 13250	
										mean = 152.13	
										σ = 11.93	

319 Sun/Mo

Date 1991 June 9/10 Observers /Par

Emulsion Batches: FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FM000355. Par	HD120245	13 43 11	38 23 33	20 50		0 05 W		'N' Male	Int x4
CC02536	Bias (4)			21 05					
2537	Comp			21 14				Fe1 Clear	60s
2538	HD122693	14 02 29	24 36 09	21 16 34	21 22 17	W			
2539	Comp			21 23				〃	〃
2540	Comp							〃	〃
2541	1E1654+35	16 52 11	35 20 27	21 30 00	21 50 00	2 11 E			
2542	Comp							〃	〃
2543	Bias (4)								
2544	1E1654+35	〃	〃	22 00	22 20	1 41 E			
2545	Comp							〃	〃
2546	1E1654+35	〃	〃	22 30	22 50	1 11 E			
2547	Comp								
2548	1E1654+35			23 00	23 20	0 41 E			
2549	Comp								

Spectr. Temp. ..... Dome Temp./Hum. 20.5/45.7 Transparency Conditions Few Clouds 320

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V= 6.95	K0III	CCD Cass	1800/96.1	250μ	5010A G=4900			Dome pointing WSW no wind mean = 188.35 σ = 10.65	
										Top up @ 20:15 T_{CCD} = +1.5	
1000		V= 8.24	F8V					2ci	~~AVG~~ SUM AVG ADU = 2492 (10 pixels)		
								3ci			
								4ci			
374		V= 10.1	G2					3ci		T_{CCD} = -100.5 SUM AVG ADU = 2087 mean = 175.63 σ = 10.66	
498								4ci			
266								5ci		Clouds	
524	2"							6ci			

32| Sun/Mo

Date 1991 June 9/10 Observers ...../Pdr.....

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02550	Bias (4)			23 25					
2551	Comp			23 43 45				Fe A Clear	60s
2552	HD 145001	16 07 41	17 04 09	23 49 05	23 50 56	0 38 W			
2553-2554	Flats (x2)					0 30 E	+35°	Tung Clear	5s
2555-2557	Flats (x3)							"	10s
2558	Dark 10 min			00 05 35					
2559	" "			00 17 33					

All to WORM + Persey

Spectr. Temp. ..... Dome Temp./Hum. 20.1/53.0 Transparency Conditions .. Few clouds 522

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/46.1	250μ	5010A			$T_{CCD} = -101.7$ mean = 187.76 σ = 10.67	
5016		V= 5.0	G5III							did brighter southern star of pair	
							8-9 di			MAX ADU = 6700	
							10-12 di			" " = 12800	
								13 di		$T_{CCD} = -101.7$	
								14 di			

323

Date 1991 June 11/12 Observers Lu/Pdr

Emulsion Batches:
FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Spectr. Temp. Exp Mtr.	Spectr. Temp. Sec
FM000356	HD 128718	14 33 24	48 39 00	21 40		00 07 W	'N' mode	Int x4			
CC02560 Pdr	Bias										
2561	comp		35 20 27					Fe A Clear	60s		
2562	1E1654+35	16 52 11	35 20 27	21 57 30	22 23 47	1 29 E				402	
2563	Comp		69 44					"	"		
2564	1E1806+69	18 06 03 (1950)	69 44 51	22 58 40	23 34 52	1 28 E				405	
2565	Comp							"	"		
2566	Bias (4)										
2567	1E1806+69	18 06 03	69 44 51	23 44 10	00 05 05	0 52 E				181	
2568	comp										

Spectr. Temp. ..... Dome Temp./Hum. 18:3/91.0 Transparency Conditions Clear 3.7x

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Prg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"	6.7	F2	CCD Cass	1800/	250μ	G=4410 4290Å		31x31 pix	~~Foca~~ Dome pointing W no wind	mean = 184.65 σ = 10.86
402		10.1	G2								
405		10.5	F9		1800/46.1		G=4900 5010Å				189.06 σ = 10.92
181		10.5	F9								
				all to WORM + Perseus							

Wed-Thurs

Date 1991 JUNE 12/13 Observers ...Pdr./J.n.....

Emulsion Batches:
.....
.....F.18. Stop.IN.} for sources
.....Diffuser.IN...}

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
FM 357 Pdr	HD120245	13 43 11	+38 23 33	20 38		0 0	4x Int	W mode	
CC02569	BIAS (4)								
2570	Comp							FeNe Clear	60s
2571	HD115735	13 13 59	+50 12 29	21 06 15	21 46 55	01 35 W			
2572	Comp							FeNe Clear	60s
2573	HD115735	131359	+50 12 29	21 50 55	22 27 30	02 16 W			
2574	Comp							FeNe Clear	60s
CC02576	HD133962	15 02 07	+48 32 14	22 36 15	≈ 23 00	01 01 W	CC02575	FeNe Clear	60s 60s
2577	Comp (after Power failure.)			Did "grating" disable		before Reset of Sp Contr		FeNe Clear	60
2578	HD133962	15 02 07	+48 32 14	23 17 20	00 02	02 03 W			
2579	Comp							FeNe Clear	60s
2580	BIAS (4)								
2581	HD133962	15 02 07	+48 32 14	00 04 50	00 43	02 44 W			
2582	Comp							FeNe Clear	60s
2583	Comp							"	"

Spectr. Temp. ....+1.4°C Dome.. Dome Temp./Hum. .+1.4°C ..56% Transparency Conditions .. Fine ..... 3-6 ....

Focus . Changed from 6.70 -> 6.85 AURORA VERY NICE after 23 EST

Spectr. Temp. ..... Dome Temp./Hum. ..... FANS ON & Dome open before 20 EST

(Slit Length and Longest)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ λ	P.H.	Program	Remarks	Quality
39x39	poor	V 6.95	KOIII	CCD CASS	1800/46.5*	0.5arc slit+Hood	4100Å		Seeing Test	G-4290 DOME SW mod NNW wind	mean = 177.99 σ = 11.43
									CGAin = 30	[550 0 40 1024 2 1 CCDFMT]	
63,200	5"	B 5.08	B9.5 IIIp						rG pgm	SUM AVG ADU = 20 (over 20 pixels)	440
63670	6"	B 5.08	B9.5 IIIp					4ci	rG pgm	(Over 20 pixels) SUM AVG ADU = 21,360	
				(only CCD2575 comp Relevant to exp)				~~5ci~~			
		B 5.57	A0 V a	SUM AVG ADU = 9880				5ci	rG pgm	Power Failure at ~23 EST for 2 mins	
	live noticed that a slight Δ change occured relative to before power failure										
43000	4-10"	B 5.57	HOV a					7ci	rG pgm	Sum AVG = 18660 ADU	
											174.69 σ = 11.68
39,000	4"-3"	B 5.57	A0 V a					8ci	rG pgm	CCD T = -101.7°C over 20 cols SUM AVG ADU = 13520	

377

pg 02

Date 1991 JUNE 12/13 Observers Pdr TA

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2584	HD 135502	15 10 18	+29 32 07	00 50 40	01 17 00	3 10 W			
2585	Comp							FeNe Clear	60s
2586	HD135502	" "	" "	01 20 40	01 46 40	3 40 W			
2587	Cmp							FeNe Clear	60s
2588	Comp							"	60s
2589	EG Ser	18 25 24	1977 -01 41 00	01 58 08	02 40	01 21 W			
2590	Comp							FeNe Clear	60s
2591	EG Ser	18 25 24	-01 41 00	02 43 20	03 21 25	02 03 W			
2592	Comp							FeNe Clear	60s
0593	Comp							"	60s
2594	HD182572	19 20 2	+11 44	03 27	03 33	01 16 W			
2595	Comp							FeNe Clear	
2596	BIAS (4)								
2597-2601	FLATS (x5)					01 20 W	+11 44	Tung Clear	60s
CCO2602	DARK			03 51					1200s

Spectr. Temp. ..... Dome Temp./Hum. +11°C ... 72% Transparency Conditions .. Fine 328

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +7.7°C 79%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
38500	4"	B 5.29	A1 V$_a$	CCD CASS	1800/40.5*	250μ	4100Å	9ci	r6 pgm	SUM AVG ADU=	
39100	4"	B 5.29	A1 V$_a$					10ci	r6 pgm	CCDT = -101.8°C	
3430	6"	V 8.22 - 8.93	B-V +0.22					11ci	Tradel pgm	for 10 cols Sum AVG ADU = 3360	
3000											
6870	6"	B 5.94	G8 IV						Stdvel		
										mean= 172.96 σ= 11.50	
								14-18		MAX ADU = 8400	
	All to Perseus + WORM									CCD T = -101.9°C	

329 pg #1 Thurs - Fri

Emulsion Batches: .....

Date 1.9.91 JUNE 13/14. Observers P.dr. - Tn. [r.G.] service obs

f.18 Stop 10] for sources
Diffusek IN 5

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02603	DARK			20 26 50					
FM000358Pdr	HD120245	13 43 11	+38 23 33	20 48		00 10W		'N' mode	4X Int
CC02604	Bias (4)								
2605	Comp							FeNe Clear	60 sec
2606	HD133962	15 02 07	+40 32 14	21 11	21 44	00 11E	CC02607	FeNe Clear	60 sec
2608	"	"	"	21 47	22 27	0027W	~~CC02609~~	"	"
2609	Comp (CC02610 for Comp)						~~CC02610~~ CC02612	"	"
2611	HD140775	15 40 27	+05 45 40	22 30 10	23 10	00 35W			
2612	Comp							FeNe Clear	60 sec
2613	HD140775	15 40 27	+05 45 40	23 13 36	23 54	01 19 W			
2614	Comp							FeNe Clear	60 sec
2615	Comp								
2616	HD135502	15 10 18	29 32 07	00 02 05	00 32 05	02 28 W			
2617	Comp							"	"
2618	Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. +16°C 48% Transparency Conditions ... Thin cloud 330

Focus ..... 6.85 no FANS, Dome open 20 EST

Spectr. Temp. ..... Dome Temp./Hum. ..... CCD T ↘ -100 @ 20 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/40a5	25μ	4100			CCD T = -100.4 at start	
31 x 31 pixels	Fine	6.95	KO III			250μ Hand - No decker	(Image below slit best)		Seeing test	Dome SW, no wind (Times) mean = 180.59 σ = 11.20	
						99μ (2nd longest slit length)			↗ Range exactly 4000 → 4200 Å		
63300	3"	B 5.57	AOV a					5ci	rG pgm	Sum AVG ADU 230,000 For 10 cols	
62600	2"-3"	"	"					6ci	"		
46000	3"-4"	B 5.57	AOV					7	rG pgm		
39000	4"	B 5.57	AOV					8	rG pgm	CCD T = -100.4° C	
52690		B 5.29	A1V a					9	rG pgm	For 20 cols Sum Avg ADU 18,880	
										mean = 178.26 σ = 11.40	

331

pg 2

Date 1.9.91 JUNE 13/14 Observers T.n. P.d.c

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02619	HD135502	15 10 18	+29 32 07	00 37 10	01 08 20	03 05 W			
2620	Comp							FeNe Clear	60s
FM000359.T4	HD171232	18 28.5	+25 25	01 20		00 01 E			
CC02621	Comp							FeNe Clear	60s
2622	HD171232	18 28.5	+25 25	01 24 20	01 45	00 23 W			
2623	Comp							FeNe Clear	60s
2624	Comp							"	60s
2625	HD182572	19 20.2	+11 44	01 52 25	02 01	00 13 E			
2626	Comp							FeNe Clear	60s
2627	BIAS (4)								
CC02628 2632	FLATS (x5)			02 20	02 30	00 50 W	+12°	TUNG Clear	60s
2633	Dark - 20m	(while topping up)		02 36 33					

Spectr. Temp. ..... Dome Temp./Hum. +12°C 52% Transparency Conditions .. Fine 332
Focus ..... - thin cloudy
Spectr. Temp. ..... Dome Temp./Hum. +12°C 59%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
56000	3"	B 5.29	A1 V$_a$	CCD CASS	1800/405	250μ	4100Å	10ci	rG pgm		
		V 7.73	G8 III			250μ (Decker in)	Image below)		seeing Test	Dome SW no wind some thin cloud	
5000	2"-3"	V 7.73	G8 III				4100Å	11ci	Std Vel		
		B 5.9									
15,500		B 5.94	G8 IV						Std Vel		
										mean = 176.92 CCD T = -101.6°C	σ = 11.51
					(longest decker Length)	250μ				8800 ADU N/A X	
				Tel not moved during Dark, but TV guider turned off - (noise seen in dark)							Vertical streaks
							Tracking up to Perseus				
							5 on worm To			CCD2621 only *	
										* Disk Full now	

333 pg # 1

Date 1.9.91. JUNE 14/15 Observers Eds. - T.n.

Emulsion Batches:
.....
.....Diff. 10 for sources
.....Cont. F.18.1.N

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
Fm 00360.Tn	HD120245	13 43 11	+38 23 33	20 28		00 05E		"N" mode	4x Int
CC02634	BIAS (4)			19 40 57					
2635	BIAS (4)			19 41 45					
CC02636 - 2645	FLATS 10			19 43 30			+45°		30s
CC02647 - 2656	FLATS 10			20 04 23			-25°		30s
CC02646	BIAS (4)								
2657	BIAS (4)			20 12					
CC02659	HD124897	14 11 06	+19 42 30	20 45 15	20 47 05	00 14E	CC02658 CC02660	FeA Clear	30sec
2662	HD147933	16 19 35	-23 13 01	21 00 10	21 48 00	01 23E	CC02661 CC02663	"	"
2665	"	"	"	22 33 20	23 23	00 12W	CC02664 CC02666	"	"
2667	"	"	"	23 25 30	00 25 40	01 15W	CC02668	"	"
2670	HD174237	18 44 29	+52 52 41	00 33 30	01 13 21	00 16E	CC02669 CC02671	"	"
2673	HD193237	20 14 06	+37 43 19	01 28 35	01 51	01 11E	CC02672 CC02674	"	"
2676	HD198439	19 50 04	+47 32 51	02 01 00	02 46 33	00 09W	CC02675 CC02677	"	"
2678	"	"	"	02 48 20	03 12 25	00 34W	CC02679	"	"

Spectr. Temp. ..... Dome Temp./Hum. ~~+20°C~~ +19°C ~~57%~~ 54% Transparency Conditions ... P.A.R.T. ... Cloudy - hazy. 334

Focus ..... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... CGAin = 30 510 0 80 1024 2 1 CCD Font

Dome open & Fans On before 19:30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
31×31 pixels		6.95	KO III		~~1800~~	250μ no checker				Dome SW no wind	
				CCP CASS	1800/43.2	250μ	4530Å			*G=4578 (SW 9 kms/hr no wind Radio)	
										2634 mean	188.68 σ=7.57
										2635 mean Dekker cut for	188.69 σ=7.55
										Flats	
											188.13 σ=7.62
											186.91 σ=7.70
360K		1	KO III			250 (Longest Slit)			Std vel	guided (trailed)	
237K	3"	5.02	B2 IV		[8,9,20 ADU SUM AVG 0 +10 cals]				Fds-pgm	dbl South's bright companion	
34K	4"-5"	"	"					2ci	"	After Bln tour.	
30,800	"	"	"					3ci	"	CCD T = -101.2°C	
45000	3"	5.88	B2.5Ve					4ci	"		
14 000	2"-3"	4.88	B2 pe					5ci	"		
16,750	"	6.39	B0.5 IIIn					6ci	"		
7,100	"	"	"					7ci	"	cloudy in	

335 Pg #2

Date 1991 JUNE 14/15 Observers F.ds - Th

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2680	BIAS(4)			03 15					
2681	"								
2687	"								
CCF00102/03	Focus-test		Comp / Stellar		1ci/2ci	0 0	≈30°	FeA Clear	30/30

Spectr. Temp. ..... Dome Temp./Hum. +16.4°C ... 72% Transparency Conditions . PART Cloudy ..... 336.

Focus ... 6.85 - 6.60 ....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CASS	1800/43.2°	250	4530Å			Mean=	183.20
											σ=7.92
										CCDT -102.3°C	
					1800/43.2		4≤30Å		≈ 2 pixels Red (scale)		
				All To Perseus			Cass =		All CC Files to Work		
							Stellar shift		blue < .5 pixel for 6.60 setting		

337 pgEL

Sun–mon

Date 1991 JUNE 16/17 Observers Fds – Tu

Emulsion Batches:

Diff. IN } for sources
f. 1.8. stop. III }

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
2683 – 2685	3 × BIAS (4)			16 50 30 16 51 07 16 52 14					
2686 – 2688	3 × DARK 30min								
2689 – 2690	2 × BIAS (4)								
2691 – 2693	3 × DARK 15m								
2694	BIAS (4)								
2695 – 2704	10 × flat	0ha	+45°00	19:49:31	–	0	+45°	clear Tung	40s
2705	BIAS (4)								
2706 2715	10 × flat	0ha	−24°00	20 09 26	–	0	−24°	clear Tung	40s
2716	BIAS (4)			20 21 40					
Fin 000 361.Tu	HD120245	13 43 11	+38 23 33		20 40	00 15W	4 frames	"N" mirr	4× Int
CCO2718	HD124897	14 11 06	+19 42 30	20 51 25	20 56 53	00 03W	CCO2717 CCO2719	Fe A Clear	30s
CCO2721	HD174237	18 44 29	+52 52 24	21 04 25	21 43 38	03 40 E	CCO2720 CCO2722	"	"
CCO2724	HD147933	16 19 35	−23 13 01	21 51 56	22 37 08	00 26 E	CCO2723 CCO2725	"	"
CCO2726	HD147933	16 19 35	−23 13 01	22 38 54	23 14 45	00 12W	CCO2725 CCO2727	"	"
CCO2728	HD147932	"	"	23 16 40	00 06 15	0 03 W	CCO2727 CCO2729	"	"

Spectr. Temp. ..... Dome Temp./Hum. +21°C ... 75% Transparency Conditions ... PART. Cloudy 3.8

Focus ... 6.60 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

CCWin = 30

FANS ON & DOME OPEN by 19:30 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/43.2 *	250μ	4530Å			* 2683 mean G=4578	192.66 σ=7.41
										2684 mean	192.52 σ=7.42
										2685 mean	192.36 σ=7.42
										2689 mean	190.96 σ=7.44
										2690 mean	190.81 σ=7.44
—										2694 mean	190.40 σ=7.45
										2705 mean	188.79 σ=7.58
—											
										2716 mean	187.44 σ=7.62
31×31	OK	V 6.95	KOIII			250μ slit, no deker			seeing test	WSW thin cloud DOME ~~SSW~~, med NW wind	
350 K		1	KOIII						stdvel	guided on warped slit	
30 000	3-5"	V 5.88	B25Ve						Fels ~~Syn~~		
30 000	5"	V 5.02	B2IV					3c	11	poor a- unresolved from Ops Sum Avg Apo 1/1858 30 cals	
30 000	11	5.02	B2IV					4c	11		
35000	11	11	11					5c	11		

339 pg 42

Date 1991 JUNE 16/17 Observers F.D.S. - J.M.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
CCO2733	HD 193237	20 14 06	+37 43 9	00 13 22	00 41 46	02 14 E	CCO2730 CCO2732	FeA Clear	30s
CCO2734	HD 188439	19 50 04	+47 32 57	00 47 15	01 36 25	00 54 E	CCO2733 CCO2735	"	"
CCO2737	HD 174237	18 44 29	+52 52 41	01 42 14	02 11 30	00 48 W	CCO2736 CCO2738	"	"
CCO2740	HD 188439	19 50 04	+47 32 57	02 16 56	02 55 15	00 25 W	CCO2739 CCO2741	"	"
CCO2742	HD 188439	19 50 04	+47 32 51	02 57 00	03 35 54	01 06 W		"	"
2744-2746	3+ Bias (10)								
CCF00194/05	Focus Test		Comp/ Stellar		11/12 ci	01 10W	+47°	FeA Clear	40s

Spectr. Temp
Focus ... 5.
Spectr. Temp

Exp Mtr

Spectr. Temp. ..... Dome Temp./Hum. +19°C 83% Transparency Conditions ... Sl. hazy .....

Focus ... 6.60 .....

Spectr. Temp. ..... Dome Temp./Hum. +17.7°C ... 85%

Cloud alert

CCD T was ≈ −102.5°C through night.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60 K	4"	V 4.88	B2 pe	CCD CASS	1800/4362	350μ	4530Å	6ci	Fbs pgm	~~4 +32~~ p Cyg	
30 K	3"	V 6.79	B0.5 III n					7ci	"	~~5 +6~~	
30 K	3"	V 5.88	B2.5 V e					8ci	"		
30K.	2"	V 6.29	B0.5 III n					9ci	"	To Persons To 2739 incl	
30K	3~4"	6.29	B0.5 III n					10ci	"	T6 to RM To 2741 incl	
										2744 mean CCDT = −100.6°C	184.61 σ = 7.78
									set 6.60,	2745 mean T = +17.7°C	184.57 σ = 7.79
									All to Persons \ Cass	2746 mean	184.54
									All CC Files now to worm		

341

pg#1 mon-TUES

Date 1991 JUNE 17/18 Observers Fds.-T.s

Emulsion Batches: FANS OFF
Diffuser IN } for comps
f/8 stop IN } for Flats

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.	S
cc02747 2749	BIAS(4) 3				19 16						
cc02750 2752	DARKS 3										
2753	BIAS(4)										
cc02754 2758	FLATS						+45°				
2759	BIAS(1)										
cc02760 2764	FLATS						−14°				
cc02765	BIAS(4)			20 2830							
Tm000362.Tn	HD120245	13 43 11	+38 23 33	≈2040		00 20W		N malle	4X Int		
cc02767	HD124897	14 11 06	+19 42 30	20 54 04	20 59 18	00 09W	cc02766 2768	Fe A Clear	30s 30s		
2770	HD174237	18 44 29	+52 52 41	21 07 45	21 45 09	03 36E	2769 2771	h	"		
2773	HD147933	16 19 35	−23 13 01	21 51 53	22 30 15	00 23 E	2772	"	"		
2775	"	"	"	22 33 00	23 05 55	00 07W	2774	"	"		
2777	"	"	"	23 08 27	23 39 42	00 41 W	2776 2778	"	"		
2779	"	"	"	2342	00 16 03	01 17 W	2780	"	"		
2782	HD188439	19 50 04	+47 32 51	00 23 40	01 02 51	01 24 E	2781 2783	"	"		

Spectr. Temp. ..... Dome Temp./Hum. +21.3°C ... 71% Transparency Conditions ..O.K. ... some cloud 342

Focus ... 6:60 .....

Spectr. Temp. ..... Dome Temp./Hum. +18.4°C ... 77%

ODD cumulus cloud From the East (unusual)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	1800/43.2°	250u	4530Å			2747 mean =	190.77 σ = 7.46
										2748 mean = CCDT = -99.7 @ 20 EST	190.69 σ = 2.48
										2749 mean	190.62 σ = 7.48
						no dekker				2753 mean	188.82 σ = 7.54
										2759 mean	188.96 σ = 7.52
						no dekker					
										2765 mean	187.89 σ = 7.61
3:31 guide		✓ 6:45	KOIII			250u No dekker			seeing Test	NO WIND DOME: W S W	
5 of 100		1	KOIII			250u (longest slit)			stellvel	trailed in RA	
30K	3	✓ 5:88	B2.5Ve					Bi	Fds pgm		
30K	3"	✓ 5:02	B2V					9 ci	"	SOUTH comp but one of close obj	
30K	"	"	"					10 ci	"		
30K	"	"	"					11 ci	"		
30K	"	"	"						"	H+L Lim Fits 01 1845	
30K	2"-3"	✓ 6:29	B0.5III						"		

343 #2

Emulsion Batches:

Date 1991 JUNE 17/18 Observers Fds.-Pdr.-Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2785	HD193237	20 14 06	+37 43 19	01 08 20	01 30 35	01 21 E	CCO2784 CCO2786	Fe A Clear	30s
CCO2788	HD188439	19 50 04	+47 32 51	01 36 48	02 13 45	00 13 E	CCO2787 CCO2789	"	"
CCO2791	HD174237	18 44 29	+52 52 41	02 19 24	02 46 15	01 27 W	CCO2790 2792	"	"
CCO2794	HD188439	19 50 04	+47 32 51	02 50 40	03 29 46	01 04 W	2793 2795	"	"
2796	BIAS (4)								
2797	"								
2798	"								

Spectr. Temp. ..... Dome Temp./Hum. 18.0/78.1 Transparency Conditions .. Fine .....

Focus .... 6:60 .....

Spectr. Temp. ..... Dome Temp./Hum. 17.7°C 87%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60 000	2"	V 4.88	B2pe	CCD CHSS	1800/43.9°	250μ	4530Å		Fds pgm		
30 000		V 6.29	B0.5III						Fds pgm		
30 000	1"	V 5.88	B2.5Ve						〃	CX Dra	
30 000	<2"	V 6.29	B0.5III						〃		
										mean	184.06 σ = 7.51
				All to Perseus							184.04 σ = 7.50
				&	WORM					CCD T = -102.0°C	153.99 σ = 7.81

345 Tue / We

Date 1991 June 18/19 Observers Fds/Pdr

Emulsion Batches: FANS ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO 2799-2801	Bias (4)			18 48 12	18 57 18				
2802-2804	Darks 15m								
2805	Bias (4)			19 50 20					
2806-2810	Flat (x5)			19 52 58		0h	+45		40s
2811	Bias (4)			20 03 39					
2812-2816	Flat (x5)					0h	-24		
2817	Bias (4)			20 16 11					
FM000363.	HD 120245	13 43 11	+38 23 33	20 36		0 19 W		'N' mode	4x Int
CCO 2819 Pdr	HD 123897	14 11 06	+19 42 30	20 51 32	20 54 06		CCO 2818 CCO 2820	FCA Clear	30s
CCO 2822	HD 174237	18 44 29	+52 52 41	21 05 20	21 44 42	03 32 E	CCO 2821 CCO 2823		
CCO 2824	HD Bias (4)				21 46 20				
CCO 2826	HD 147933	16 19 35	-23 13 01	21 54 29	22 44 36	00 10 E	CCO 2825 CCO 2827	FeA Clear	30s
CCO 2828	"	"	"	22 46 53	23 32 10	00 38 W	CCO 2827 CCO 2829	"	"
CCO 2831	HD 193237	20 14 06	37 43 19	23 40 12	00 29 46	02 17 E	CCO 2830 CCO 2832	"	"
CCO 2834	HD 188439	19 50 04	47 32 51	00 25 58	01 31 16		CCO 2833 CCO 2835	"	"

Spectr. Temp. ..... Dome Temp./Hum. 21.1 / 78.1 Transparency Conditions Hazy, Part Cloudy

Focus .... 6.60 .....

Spectr. Temp. ..... Dome Temp./Hum. 20.1 / 83.8

346

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/43.2	250μ	G=4578 4530 Å		Dome T =	22.6 / 70.9% ; = Hazy & Cl $\bar{x}$ = 190.074 ; 189.989 ; 189.739 mean : 191.18 ; 191.08 ; 190.83	
										22.2°C / 73.3% $\bar{x}$ = 188.858 mean = 189.99	
										22.0 C / 74.1% $\bar{x}$ = 187.552 mean = 188.69	
										21.8 C / 74.9% $\bar{x}$ = 187.444 mean = 188.52	
31×31 pix		6.95	ko III			250μ no deker			Seeing test	Dome pointing WSW light wind from E Arcturus (trailed)	
300 000											
30K		5,88	B2.5 Ve							T_{CCD} = - 101.1 20.6 °C / 81.3% $\bar{x}$ = 188.271	
17800	3"	5.02	B2 IV								
4750		"	"							Clouds	
50K		4.88	B2 pe						P Cyg	Clouds	
20K		6.29	B0.5 III								

347 #2

Date 1991 June 18/19 Observers Fds - Pdr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2837	HD 174237	18 44 29	52 52 41	01 38 20	02 28 20	1 13 W	CCO2836 CCO2838	Fe A clear	30s
2839-2841	Bias (4)			02 32					
	1991 June 19/20 We/Th		Fds - Lin - Pdr						
CC2842-2844	Bias (4)			18:50:30					
CCO2845 2847	Dark - 15 m								
2848	Bias (4)			19:43:56					
2849-2853	Flat (x5)					0h	+45°		35s
2854	Bias (4)			19:58:23			+45°		
2855	Bias (4)			20:01:10			-24°		
2856-2860	Flat (x5)						-24°		
2861	Bias (4)			20:10:07					
FM000364 Pdr	HD 120245	13 43 11	38 23 33	20:50				LOG Mode	OX Int
FM000365 Pdr	"	"	"			0 41 W	~~0 +45~~	'N' mode	4x Ext

Spectr. Temp. ..... Dome Temp./Hum. 19.3 / 88 % Transparency Conditions Hazy ..... 348...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
28 400	2"	V 5.88	B2.5	Ve CCD Cass	1800/43.2	250μ	G=4578 4530A				
										19.1 °C / 88.6 % $\bar{x}$ = 185.398	185.357 185.268
				All to Persens + WORM							
										mean = 186.56 186.51 186.47	
				Dome temp/Hum 24.1 / 61.5 %							
										Dome T Humidity	
				CCD Cass	1800/43.2	250μ	G=4578 4530A			24.9 °C / 61.5 % $\bar{x}$ 194.488 194.250 194.200	
										25.0 °C / 61.5 %	
										25.0 °C / 61.5 %	
										24.8 °C / 62.5 % $\bar{x}$ = 193.863	
						no decker					
										24.7 °C / 61.4 % $\bar{x}$ = 193.827	
										24.6 °C / 61.5 %	
										24.5 °C / 60.9 % $\bar{x}$ = 192.624	
31x31 pix		V 6.95	KO 14							Dome pointing WSW	
11		11	11							light wind from N	

349 #2

Date 1991 June 19/20 Observers Fds/Lin/Pdr

Emulsion Batches:
FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCO2863	HD124897	14 11 06	19 42 30	21 05 27	21 06 40	0 25 W	CCO2862 CCO2864	FeAr Clear	30s
2865	Bias(4)			21 09 17		0 28 W	+19 11		
2867	HD174237	18 44 29	52 52 41	21 17 38	21 50 31	3 22 E	CCO2866 CCO2868	FeAr Clear	30s
2869	Bias (4)			21 52 55		3 21 E	+52 58		
2871	HD147933	16 19 35	-23 13 01	22 00 00	22 42 35		CCO2870 2872	FeAr Clear	30s
2873	Bias (4)				22 46 12	0 04 E	-23 26		
2874	HD147933	"	"	22 48 06	23 21 08	0 30 W	2872 2875	FeAr Clear	30s
2876	"	"	"	23 24 41	23 55 15	1 04 W	2875 2877	"	"
2878	Bias (4)			23 58 20		1 08 W	-23 26		
2880	HD188439	19 50 04	47 32 51	00 05 56	00 45 55	0 18 E	CCO 2879 2881		
2882	BIAS (4)			00 48 49		1 30 E	+47 47		
2884	HD193237	20 14 06	37 43 A	00 55 12	01 16 54	1 26 E	CCO2883 2885	FeAr/ clear	30s
2886	Bias (4)			01 19 51		1 23 E	+37 59		
2888	HD188439	19 50 04	47 32 51	01 27 23	02 03 46	0 15 E	CCO2887 2889	FeAr Clear	30s
2890	Bias (4)			02 06 30		0 12 E	+47 46		

Spectr. Temp. ..... Dome Temp./Hum. 23.8/61.5% Transparency Conditions Patchy clouds 350

Focus 6.60 .....

Spectr. Temp. ..... Dome Temp./Hum. 20.3/56.4%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
150K		-0.04	K1.5 III		1800/43.2	250μ	G=4578 4530A		Arcturus	Dome T / Humidity 23.8°C/61.5% $\bar{x}$=192.787	
30K	2"	V 5.88	B2.5 Ve						Cx Dra	23.2°C/60.1% $\bar{x}$=193.178	
30K		V 5.02	B2 IV					5 ci		22.3°C/61.5% $\bar{x}$=190.103	
30K		"	"					6 ci			
30K	4"	"	"					7 ci		t=21.4/64.6% $\bar{x}$: 188.427	
30K	3"	V 6.29	B0.5 III					8 ci		21.5/61.5% $\bar{x}$: 195034	
50K		4.88	B2 pe					9 ci		20.6/62.3% $\bar{x}$=188.445	
30K	3"	6.29	B0.5 III					10 ci		20.4°C/56.3% $\bar{x}$=187.889	

351 #3

Date 1991 June 19/20 Observers Fds/Lin/Pdr

Emulsion Batches:
.....
..... Diffs f/18.11
..... for sources,

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02892	HD 174237	18 44 29	52 52 41	02 14 59	02 53 34	1 42 W	CC02891 CC02893	Fehr Clear	30s
2895	HD 188439	19 50 04	47 32 51	03 03 10	03 40 42	1 23 W	CC02894 2896	"	"
2897-2899	Bias (4)			03 43 36		1 26 W	47 47		
Pg #1	1991 JUNE 20/21 Thurs - Fri			Fds/Lin/Pdr/Tn					
CC02900 02902	BIAS(4)			19 11 10 19 12 24 19 13 50		0 0 HA	+46°	rH=47.9%	
02903 2905	DARKS			19 1400			"		15min
CC02906	BIAS(4)			20 0457		0 0 HA	+45°	rH 47.7	~~15min~~
CC02907 - 2911	FLATS			20 10 50		0 0	+45°	TUNG Clear	35s
CC02912	BIAS (4)			20 19 10		0 0	-24°	rH 48%	
CC02913 2917	FLATS			20 2110			-24°	TUNG Clear	35s
CC02918	BIAS(4)			20 30 20			?	rH 48%	
FM000366 Pdr	HD 120245	13 43 11	38 23 33	20 39		0 27 W		W1 mode	4x Int
CC02920	HD 174237	18 44 29	+52 52 41	20 51 05	21 36 25	03 33 E	CC02919 CC02921	Fe A Clear	30sec
CC02922	BIAS(4)			21 3652		03 30 E	+52 58	rH 47.7%	

Spectr. Temp. ..... Dome Temp./Hum. 20.2 / 56.9% Transparency Conditions ..Clear..... 352

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
50K	3"	V 5.88	B2.5 Ve	CCD Cass	1800/43.2	250μ	G=4578 4530A	11 ci	Cx Dra		
30K		V 6.29	B0.5 III					12 ci		Dome T / Humidity	
										19.6°C / 59.4% $\bar{x}$ = 186,395	
				All to Pluskus + WORK						19.5°C / 59.4 $\bar{x}$ = 186.222	
										19.5 / 59.4 $\bar{x}$ = 186.205	
Dome T=	+24°	+~~23~~°C		Start, Focus still	6.60		λ central			$\bar{x}$	
				CCD			G4578			+24.3 193.44	
				CASS	1800/43.2	250μ	4530Å			+24.3 193.176	
										Dome T= +24.2 193.159	
										$\bar{x}$	
										Dome T +23.4°C 191.291	
no decker											
										$\bar{x}$ = 189.989	
										~~Dome~~ Dome T = +23.0°C	
no decker											
										$\bar{x}$ = 191.275	
										Dome T = +22.8°C	
31×31 pix		V 6.95	K0 III	4 frames		250μ no decker			seeing Test	Dome Light N W wind SW (N 11 Kms/Hour)	
	2-3"	V 5.02	B2 IV			250μ (2nd longest slit)			Fds pgm	cloudy	
								CCD T = -102.2°C		Dome T = +21.6°C $\bar{x}$ 190.276	

353

pg #2

Emulsion Batches:

Date 1991 JUNE 20/21 Observers Eds - Tom - Kim - Peter

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC02924	HD124897	14 11 06	+19 42 30	21 46 39	21 49 13	01 11 W	CC02923 CC02925	FeA-Clear	30s
CC02926	BIAS (4)			21 51 05		01 14 W	+19 12	rH 48%	
CC02928	HD173237	20 14 06	+37 43 19	22 31 01	22 54 08	03 45 E	CC02927 CC02929	FeA Clear	30sec
2930	BIAS (4)			22 58 41		03 48 E	+38		
2932	HD174237	18 44 29	52 52 41	23 03 03	23 38 52	01 30 E	CC02931 CC02933	FeA Clear	30s
2934	BIAS (4)					01 27 E	+53		
2936	HD188439	19 50 04	47 32 51	23 46 19	00 25 22	01 49 E	CC02935 CC02937	FeA Clear	30s
2938	BIAS (4)			00 28 29		01 46 E	+47		
2940	HD193237	20 14 06	+37 43 19	00 33 24	00 53 47	01 46 E	CC02939 CC02941	FeA Clear	30s
2942	BIAS (4)					01 43 E	+38	→ lost	
2944	HD174237	18 44 29	+52 52 41	01 03 08	01 40 47	00 32 W	CC02943 CC02945	FeA Clear	30s
2946	BIAS (4)					00 35 W	+53		
2948	HD188439	19 50 04	47 32 51	01 50 23	02 12 10	00 02 E	CC02947 2949	FeA Clear	30s
2950	BIAS (4)					00 02 W	+48		

Spectr. Temp. ..... Dome Temp./Hum. 21.7° 18% Transparency Conditions ... Clearing In 354

Focus .... 660 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
47489		1	K0III	CCD CASS	1800/432	79μ	4530Å			Cloudy	
									CCDT = -101.9°C	Dome T = 21.7°C $\bar{X}$ = 189.598	
40 K	3"	V 4.88	B2pe				P Cyg		P Cyg Fds-pgm	Humidity = 47.9% PART Cloudy $\bar{X}$ =	
									CCDT = -101.1	Dome T = 21.0 189.143	
30 K		V 5.88	B2.5Ve						Cx Dra	Humidity = 50.0%	
									CCDT = -101.9	$\bar{X}$ Dome T = 20.3 187.556	
30 K	3"	V 6.29	B0.5 III						fds pgm	Humidity = 50 2%	
									CCDT: -101.9	Dom T = 19.8° $\bar{X}$ Humidity = 51.5% 186.868	
50 K	3"	V 4.88	B2pe						Fds-pgm		
									CCDT -101.8	Dome T = 19.6 $\bar{X}$ Humidity = 52.4% 186.677	
40 K		V 5.88	B0.5 Ve								
									CCDT -101.9	Dome T = 19.5 $\bar{X}$ Humidity = 52.2% 186.675	
12400		V 6.29	B0.5 III							Some clouds $\bar{X}$	
									CCDT -102.0	Dome T = 19.3 186.132 Humidity = 53.0%	

All to Pasley + WORM

355

Emulsion Batches:

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Date ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp

51

blaze centered at about 18.00° on echelle (echelle grating tilt)